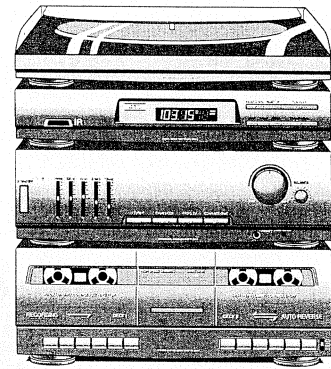


Service
Service
Service



Service Manual

For repair information of the Record player
see Service Manual of Record player HP7D283MQ-1

For repair information of the cassette mechanism
see Service Manual of Tape Transport RN/RR General
documentation and Tape Transport RN-4 or RR-3

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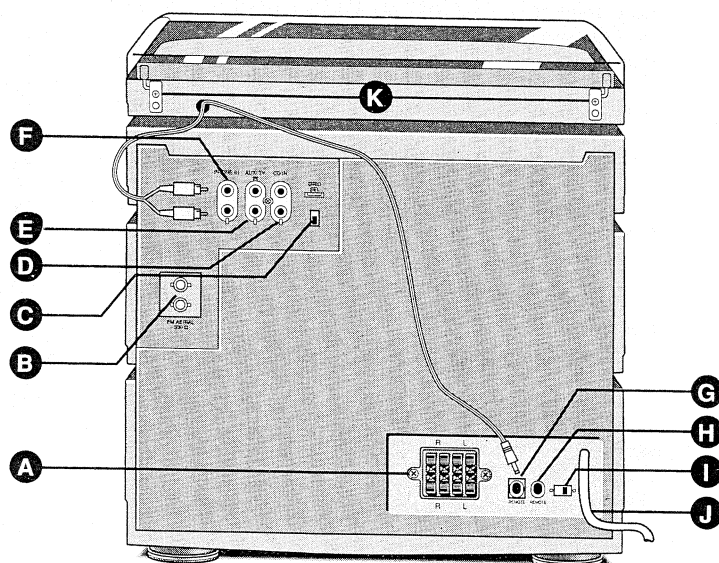
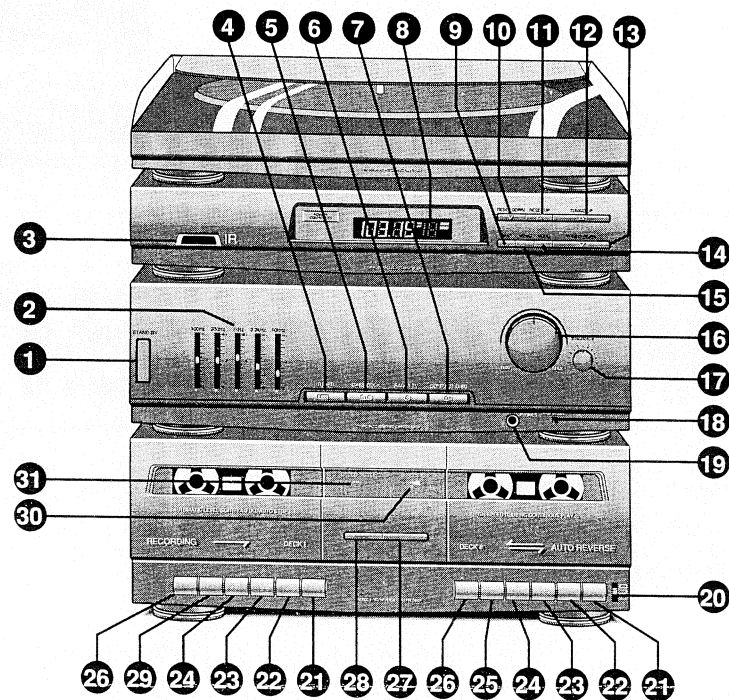
"Pour votre sécurité, ces documents
doivent être utilisés par des spécia-
listes agréés, seuls habilités à réparer
votre appareil en panne".

Subject to modification

4822 725 23075

PHILIPS

CONNECTIONS AND CONTROLS



1	Power Switch	1259	21	Pause	
2	Graphic Equalizer	3505,3507	22	F.Forward	
		3509,3511	23	F.Rewind	
		3513	24	Play	
3	Infra Red Sensor	6420	25	Direction II	
4	Tuner	1404	26	Stop-Eject	
5	Tape	1402	27	Fe/Cr	1801
6	Phone/TV	1401	28	Dolby NR	1802
7	CD	1403	29	Record I	
8	Display	1400	30	Reverse Direction Indicator	6801
9	Band Selector	1406	31	Dolby NR Indicator	6802
10	Preset Down	1412	A	Speaker Connection	1254
11	Preset Up	1411	B	FM Aerial Socket	1100
12	Tuning Up	1410	C	Not Applicable	
13	Tuning Down	1407	D	CD Input	1554
14	Mono/Stereo	1408	E	Aux/TV	1554
15	Program Memo	1409	F	Not Applicable	
16	Volume Control	3500	G	Not Applicable	
17	Balance	3545	H	Remote Out Socket	1255
18	DBB Switch	1405	I	Not Applicable	
19	Headphone	1256	J	AC Mains Cord	
20	Auto Reverse Mode				

ADJUSTMENT	CASSETTE	SK...	Recorder position		MEASURE ON	READ ON	ADJUST	ADJUST
			DECK I	DECK II			WITH	TO
Azimuth	10KHz SBC 420*	Tape	Play	-	1256	mV-meter	Left hand Screw Play head	Max. L = R
		Tape	-	Play fwd	1256	mV-meter	Left hand Screw R/P Head	
		Tape	-	Play rev	1256	mV-meter	Right hand Screw R/P Head	
Motor speed	3150Hz	Tape	Play	-	1256	Wow and Flutter meter	3774	** a
(Normal)	SBC420*	Tape	-	Play	1256	Wow and Flutter meter	3776	

* SBC 420 : 4822 397 30071

** a The maximum permissible speed deviation is 2%.
Moreover, the wow and flutter value can be read.
This value should not exceed 0.35%.

SPECIFICATIONS

GENERAL

Mains voltage	: 120V - 220V - 240V
Mains selection/setting	: Serviceable Set at 220V
Mains frequency	: 50Hz - 60Hz
Power consumption	: 120W max.
Dimension centre unit	: 360 x 382 x 380 mm

TUNER : FM SECTION

Tuning range	: 87.5MHz - 108MHz
IF frequency	: 10.7MHz
Aerial input	: 75 Ω coaxial
Sensitivity at 26dB S/N	: <4 μ V
Selectivity at 600kHz bandwidth	: >72dB
IF rejection	: >80dB
Image rejection	: >80dB

TUNER : AM SECTION

Tuning range	MW : 522kHz - 1611kHz LW : 148kHz - 284kHz
IF frequency	: 450kHz
Sensitivity at 26dB S/N	MW : <1.7mV/M LW : <4.0mV/M
Selectivity at 18kHz bandwidth	: >28dB
IF rejection	: >40dB
Image rejection	MW : >30dB LW : >34dB

AMPLIFIER

Output power at 10% distortion	: 2 x 15W -1dB
Speaker impedance	: 2 x 8 Ω
Frequency response within -3dB	: 60Hz - 14kHz
Equalizer control	: -7dB to +7dB
Dynamic bass boost	: +8dB at 100Hz
Headphone output at 8 Ω	: 350mV
Remote control output	: 5V non-inverted RC5
Input sensitivity	Aux/TV : 200mV at 47k Ω CD : 400mV at 47k Ω

CASSETTE RECORDER

Number of track	: 2 x 2 stereo
Tape speed	: 4.76 cm/sec $\pm$ 2% 1.8 x 4.76 cm/sec
Wow and flutter	: <0.4%
Fast-wind time C60	: 130 sec
Bias system	: 74kHz $\pm$ 6kHz
Recording playback frequency response within -7dB	: 125Hz - 12.5kHz
Noise Reduction Factor	: 8.5dB

RECORD PLAYER

Type of drive system	: Belt drive
Type of PU Head	: Diamond
Stylus force	: 5.0gmf +1.5gmf/-1gmf
Speed	: 33 1/3 ; 45 rpm $\pm$ 2%
Wow and flutter	: <0.3%
Rumble	: -30dB DIN A -50dB DIN B

SELF- TEST PROCEDURE

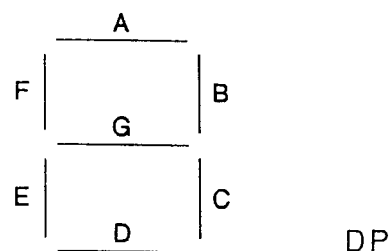
When holding the program-key and preset-up down during power up the ERROM is loaded after which the display lights completely until both keys are released.

The loaded information are as follows:

Preset	Frequency			Band
		POL	USA	FM
0	87.50	65.00	87.5	
1	97.00	65.00	106.5	
2	98.00	65.00	87.5	
3	99.00	65.00	87.5	
4	108.00	65.00	87.5	
			USA	MW
5	522		530	
6	567		580	
7	603		620	
8	1278		1370	
9	1494		1610	
10	1611			LW
11	148			
12	155			
13	200			
14	275			
15	284			
		EUR		SW
16	3820	5820		
17	3900	5900		
18	11900	13900		
19	12100	14100		

LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4

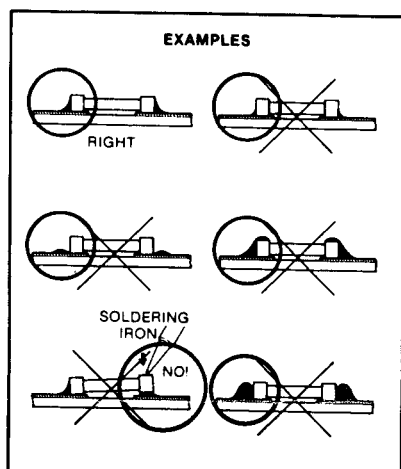
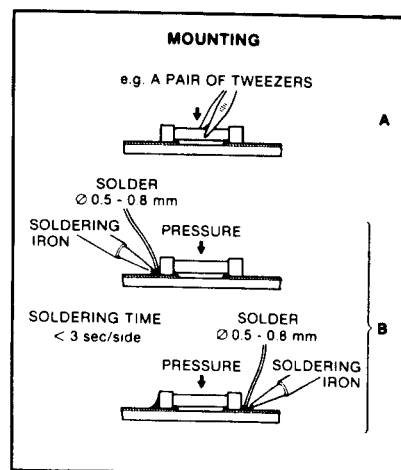
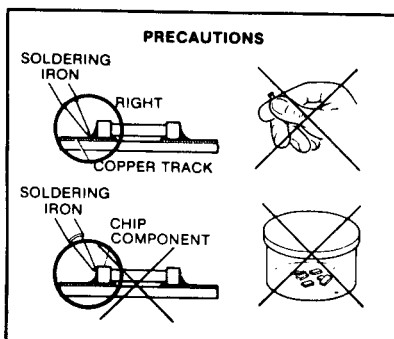
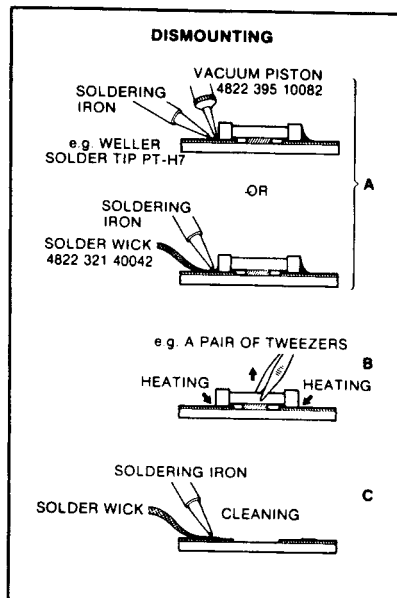
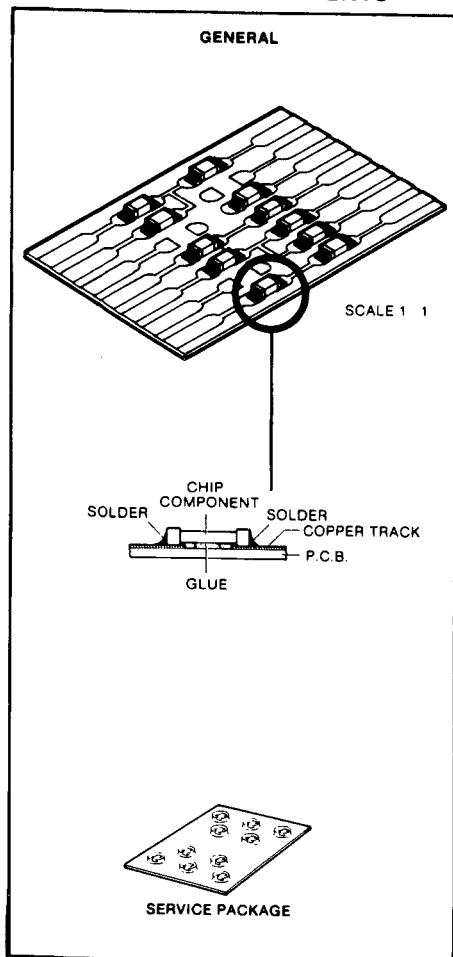


LCD Display

SWLW					
MW					
AM					
FM					
digit	1	2	3	4	5

STEREO		
PROGR		
KHZ		
mHZ		
	6	7

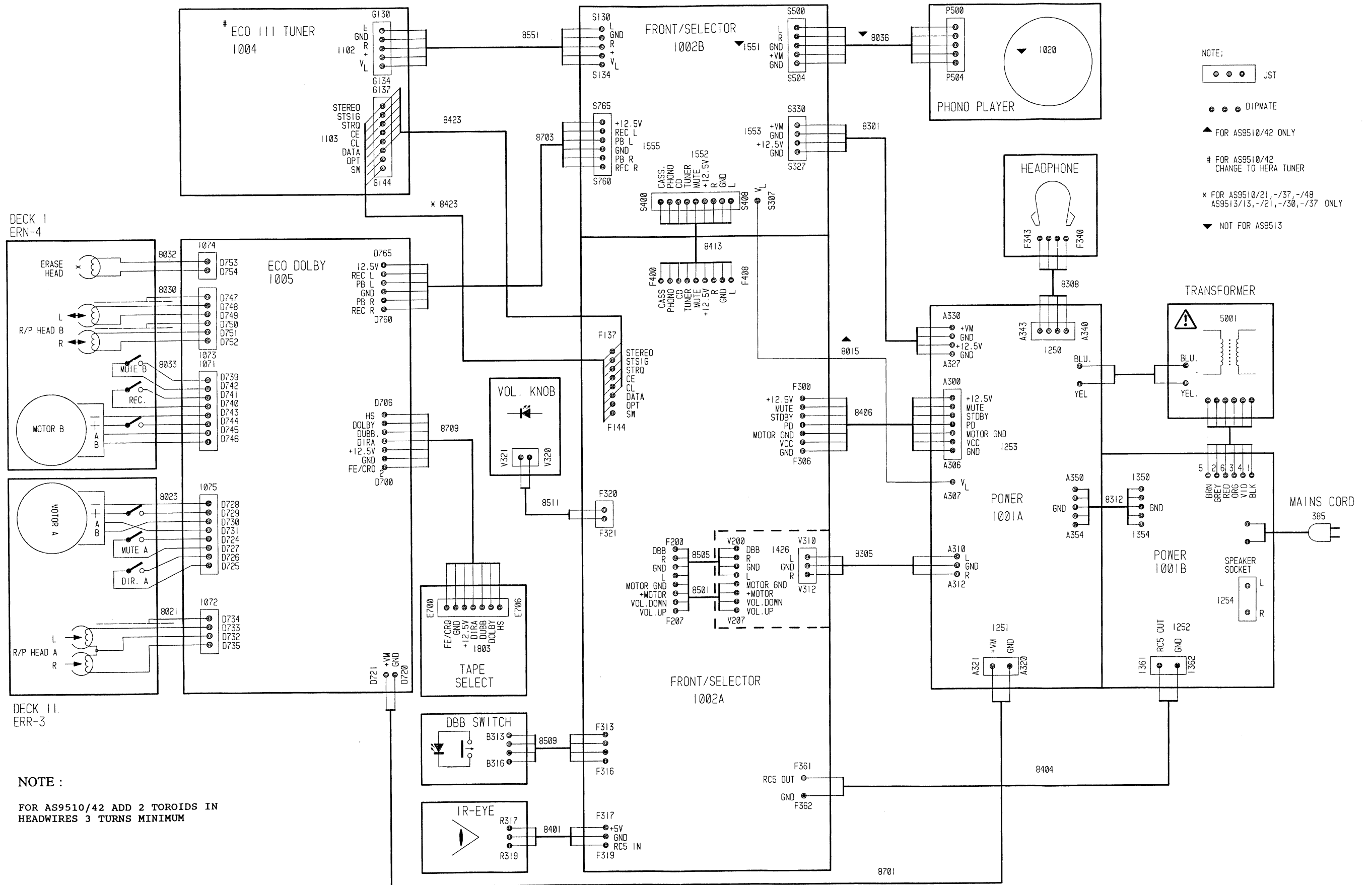
HANDLING CHIP COMPONENTS



27 012C12

Carbon film 0.2 W CR16 70°C 5%	Plate ceramic Tuning < 120 pF 2% Others -20/+80%	* a = 2.5 V b = 4 V c = 6.3 V d = 10 V e = 16 V f = 25 V g = 40 V h = 63 V j = 100 V l = 125 V m = 150 V n = 160 V q = 200 V r = 250 V s = 300 V t = 350 V u = 400 V v = 500 V w = 630 V x = 1000 V A = 1.6 V B = 6 V C = 12 V D = 15 V E = 20 V F = 35 V G = 50 V H = 75 V I = 80 V
Carbon film 0.33 W CR25 70°C 5%	Tubular ceramic	
Carbon film 0.5 W CR37 70°C 5%	Polystyrene film / foil 1%	
Standard film 0.5 W SFR16T 70°C 5%	Polyester Film / foil 10%	
Standard film 0.4 W SFR25 70°C 5%	Mylar 10%	
Metal film 0.6 W MRS25 70°C 5%	Electrolytic	
Safety resistor		
Chip component		

26338



* ONLY FOR 3104-217-27890 /42
 ✚ ONLY FOR 3104-217-27880 /21 /33
 # NOT FOR 3104-217-27880 /21 /33
 ◆ NOT FOR 3104-217-27890 /42

3104-217-27870 PUNT 6 AS9510 /20 /40 /48

A

B

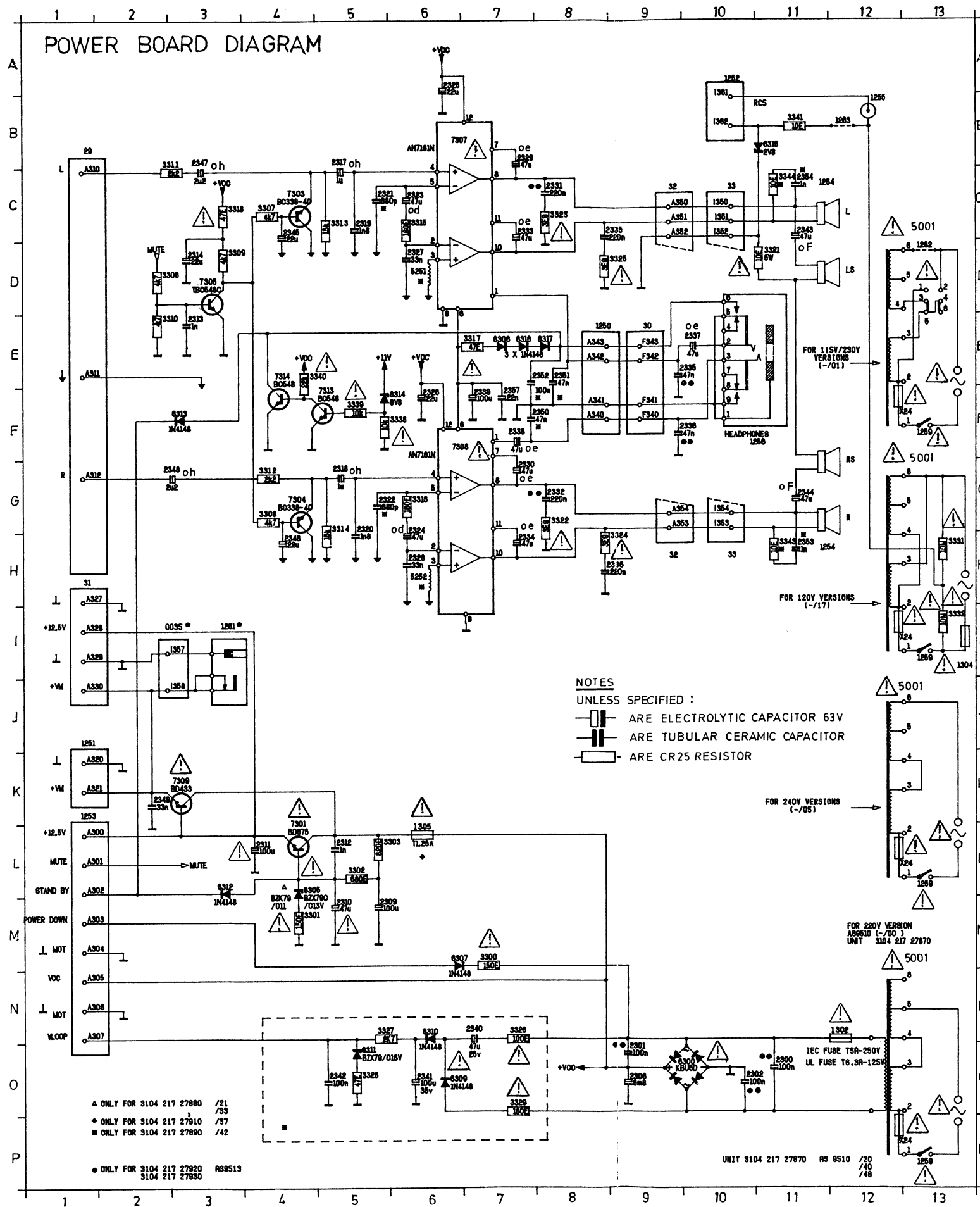
C

D

E

F

0030	E9	2352	E7
0031	M1	2353	H11
0032	C9	2354	C11
0032	M9	2357	F7
0033	C10	3300	M7
0033	H10	3301	M46
1250	E8	3302	L5
1251	J1	3303	L5
1252	A10	3306	D2
1253	K1	3307	C4
1254	M11	3308	G4
1254	C11	3309	D3
1255	B12	3310	E2
1256	F11	3311	B3
1261	I3	3312	G4
1262	D13	3313	C5
1263	B12	3314	G5
1302	M12	3315	C6
1304	I13	3316	G6
1305	L6	3317	E7
2300	O11	3318	C3
2301	O9	3321	D11
2302	O10	3322	G8
2306	O9	3323	C8
2309	M5	3324	M8
2310	M5	3325	D8
2311	L4	3326	M7
2312	L5	3327	M5
2313	E3	3328	O5
2314	D3	3329	O7
2317	B5	3331	H13
2318	G5	3332	I13
2319	C5	3338	F5
2320	G5	3339	F5
2321	C5	3340	E4
2322	G5	3341	B11
2323	C6	3343	H11
2324	G6	3344	C11
2325	A6	5001	J12
2326	F6	5001	G12
2327	D6	5001	D12
2328	H6	5001	M12
2329	B7	5251	D6
2330	G7	5252	H6
2331	C8	6300	O10
2332	G8	6305	L4
2333	C7	6306	E7
2334	H7	6307	M6
2335	E9	6309	O6
2335	C8	6310	M6
2336	H8	6311	O5
2336	F9	6312	L3
2337	E10	6313	F3
2338	F7	6314	F5
2339	F7	6315	B11
2340	M7	6316	E7
2341	O6	6317	E8
2342	O5	7301	K4
2343	C11	7303	C4
2344	G11	7304	G4
2345	C4	7305	D3
2346	H4	7307	B6
2347	B3	7308	F6
2348	G3	7309	K3
2349	K2	7313	F5
2350	F7	7314	E4
2351	E8		



FOR POWER BOARD

+Vcc : 22.4V

7307/7308

1 : 4.0V
2 : 1.2V
3 : 0V
4 : 0.1V
5 : 1.2V
6 : 22.4V
7 : 21.5V
8 : 12.2V
9 : 0V
10 : 12.2V
11 : 22.0V
12 : 22.4V

7301

7303/7304

7309

e : 13.1V e : 0V e : 12.7V
b : 14.6V b : 0V b : 13.1V
c : 22.4V c : 0V c : 22.4V

7313

7314

e : 0V e : 21.4V
b : 0.7V b : 0V
c : 0V c : 0V

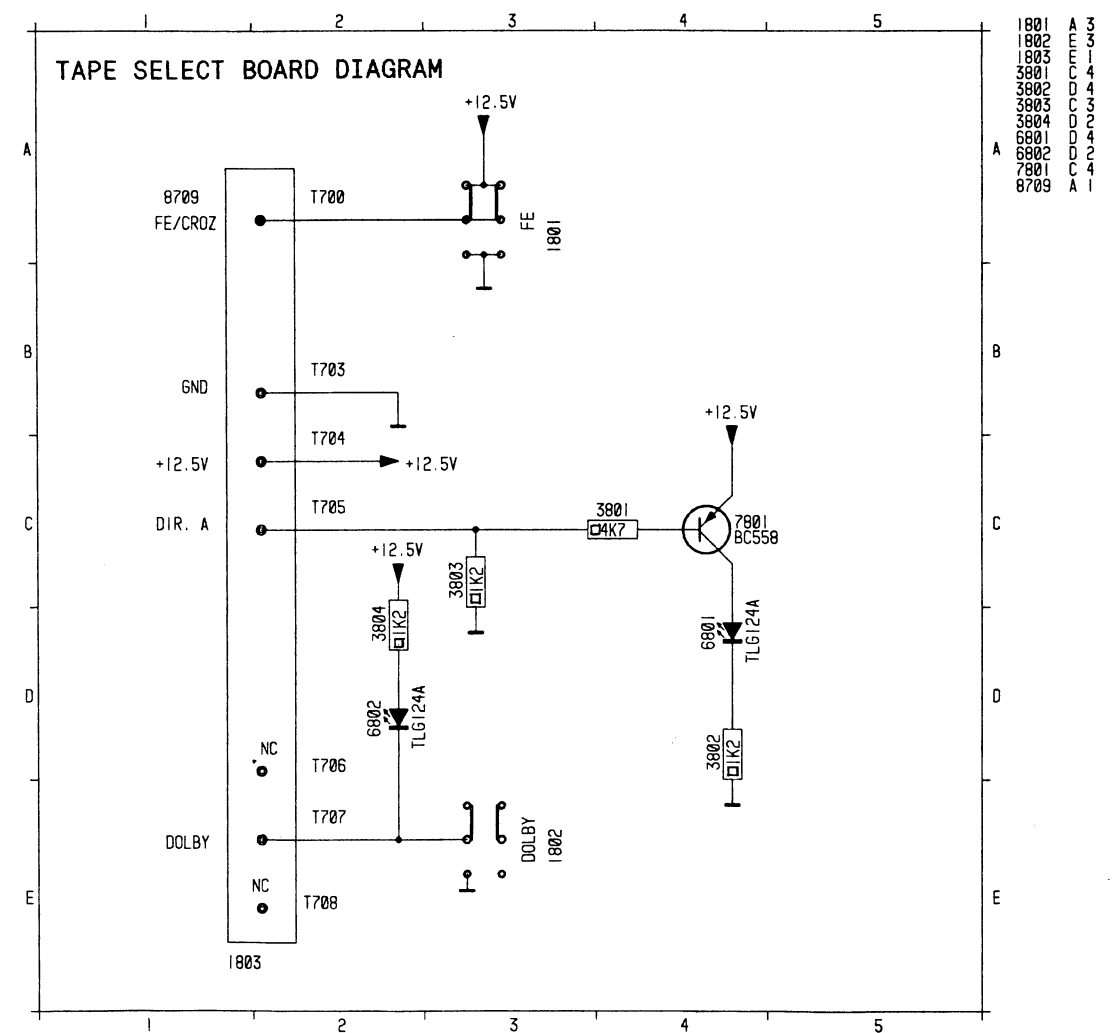
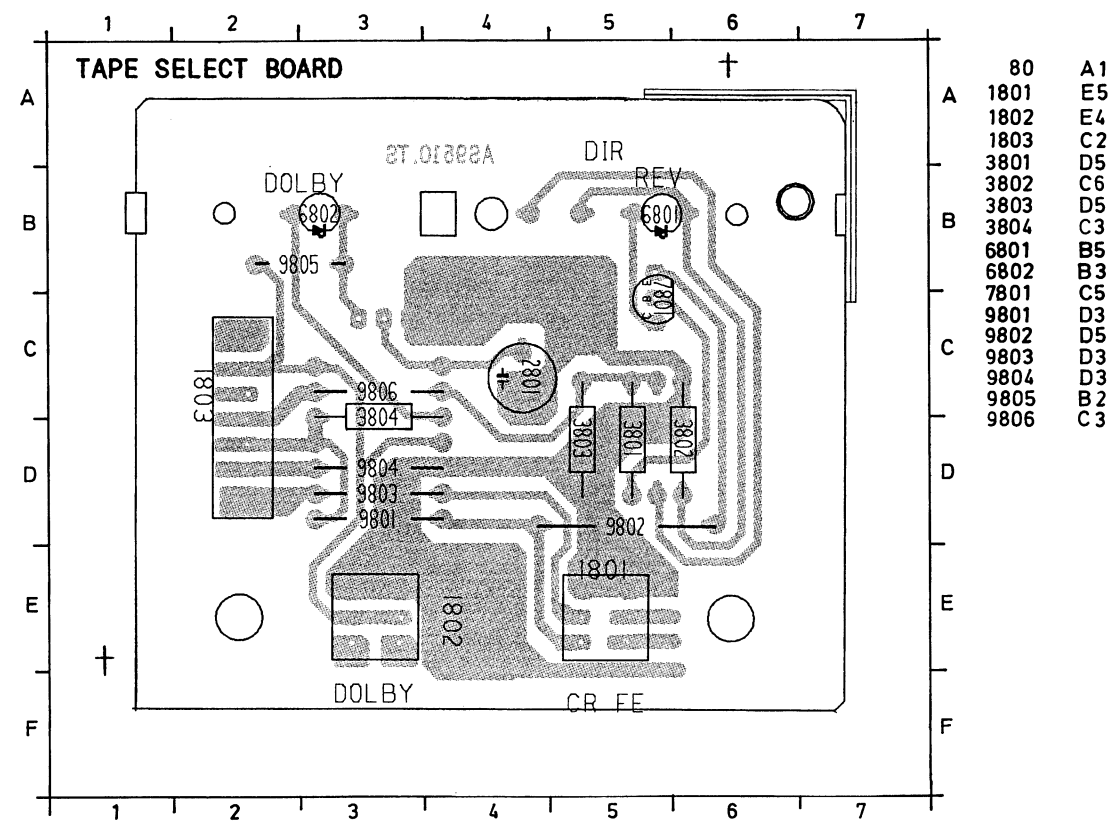
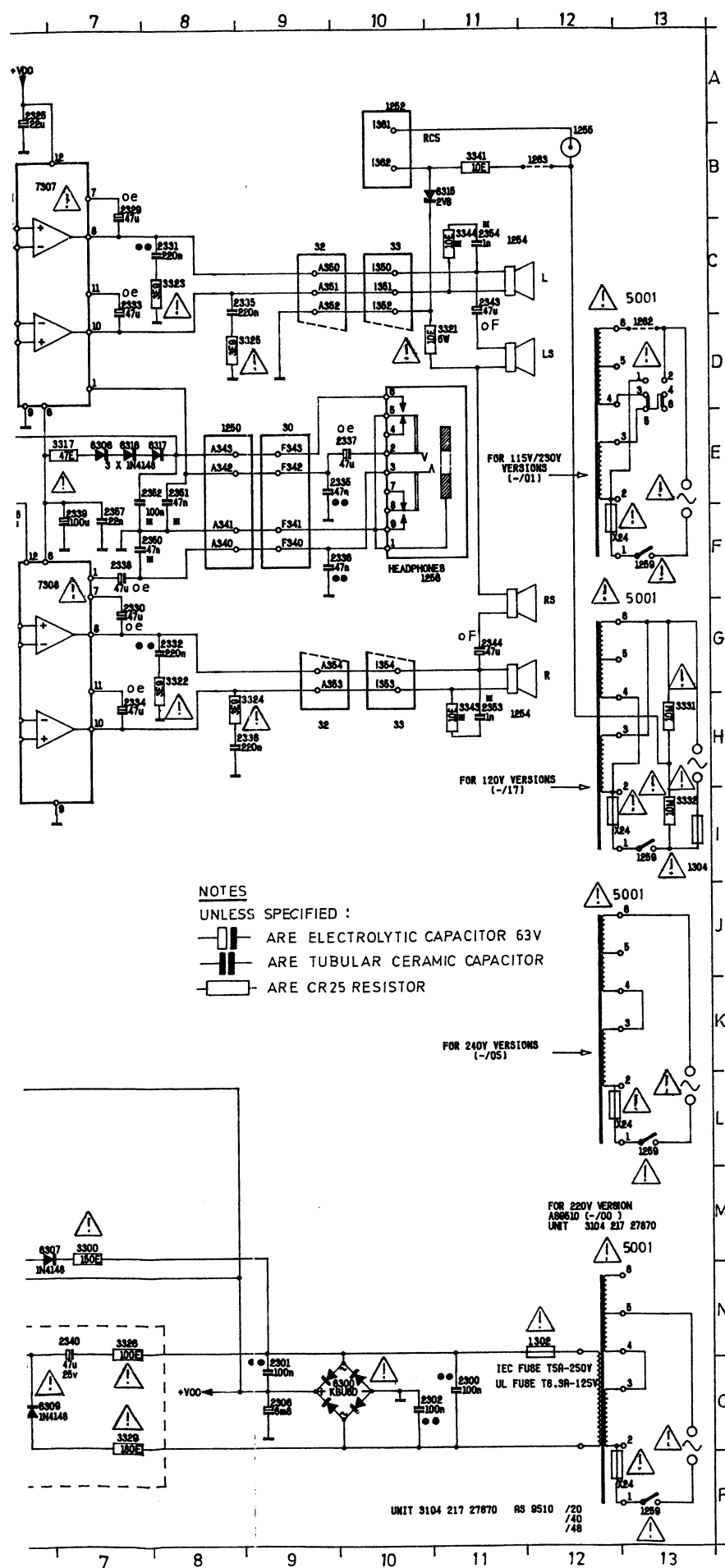
....V measured in power on position

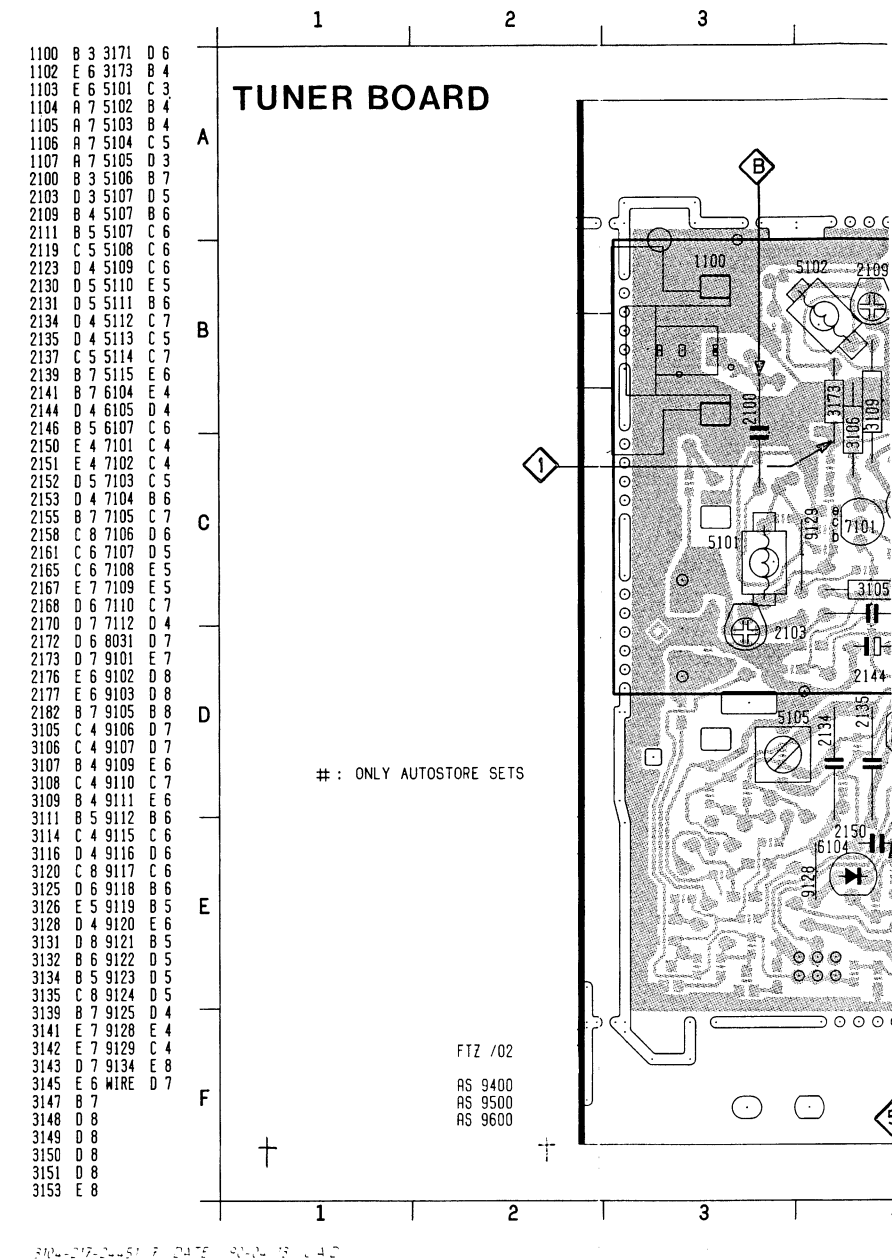
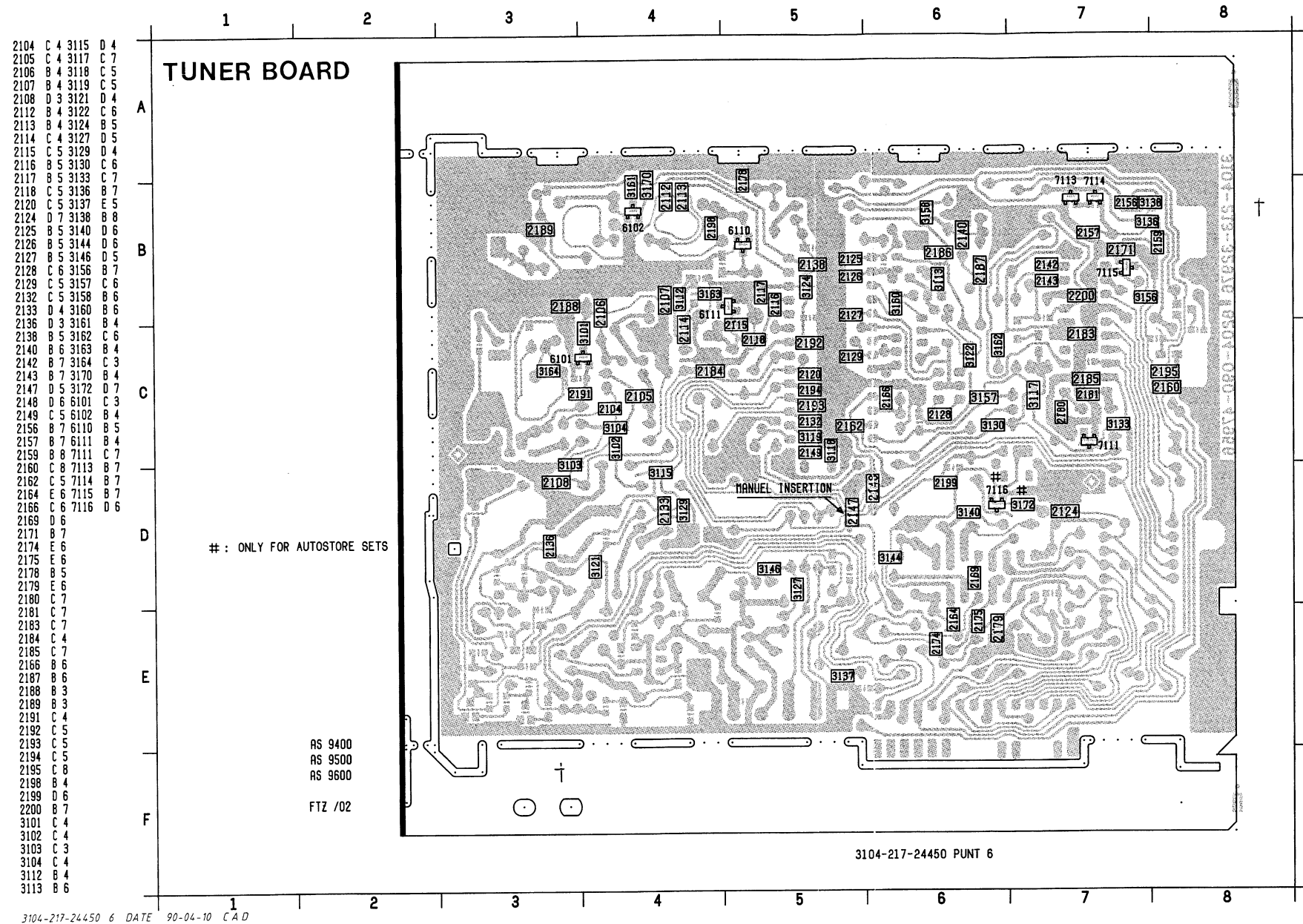
FOR TAPE SELECT BOARD

7801

e : 12.5V
b : 12.5Vfw
11.7Vrew
c : 0Vfw
12.5Vrw

....V measured in power on position
....Vfw measured in tape forward position
....Vrew measured in tape rewind position





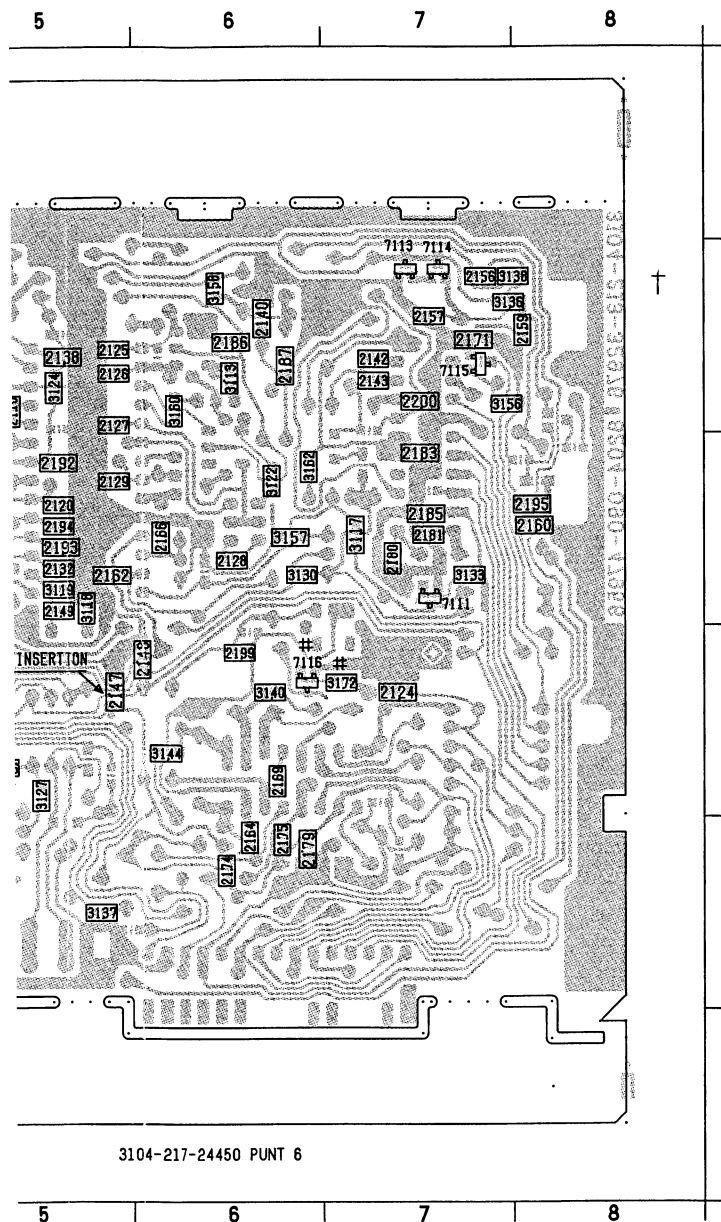
+10 = +V = 14.2V

FM AM
+7 = 6.2V 7.7V

7103		7106	
FM	AM	FM	AM
1 : 1.0V	0V	15 : 6.8V	7.2V
2 : 1.0V	0V	16 : 1.9V	2.7V
3 : 0V	0V	17 : 0.7V	1.3V
4 : 1.3V	0V	18 : 0.5V	0.5V
5 : 2.0V	0V	19 : 0V	0V
6 : 3.7V	0V	20 : 2.3V	0.2V
7 : 6.2V	7.7V	21 : 2.3V	0.1V
8 : 6.2V	7.7V	22 : 4.5V	7.2V
9 : 2.3V	2.3V	23 : 0V	2.2V
10 : 2.3V	2.3V	24 : 0V	2.2V
11 : 5.0V	5.0V	25 : 2.3V	0.1V
12 : 0V	1.7V	26 : 6.2V	7.7V
13 : 1.9V	0V	27 : 6.1V	7.7V
14 : 2.0V	2.6V	28 : 6.1V	7.7V

7106		7110	
FM	AM	FM	AM
1 : 10.9V	11.1V	11 : 1.3V	1.3V
2 : 1.4V	1.4V	12 : -	-
3 : 1.5V	1.5V	13 : 1.3V	1.3V
4 : 2.6V	2.6V	14 : 1.3V	1.3V
5 : 2.6V	2.6V	15 : 1.3V	1.3V
6 : -	5.0V	16 : 0.2V	0.4V
	5.0V		
	0.7V		
7 : 0V	0V		
8 : 0.5V	0.5V		
9 : -	2.3V		
	2.3V		
10 : 1.3V	1.3V		

7110		71	
FM	AM	FM	AM
1 : 1.8V	1.8V	15 : 5.6V	5.7V
2 : -	-	16 : 5.6V	5.7V
3 : -	-	17 : -	-
4 : -	-	18 : 1.1V	1.1V
5 : -	-	19 : 0V	0V
6 : 0.2V	0.2V	20 : 0.9V	0.9V
7 : 0V	0V		
8 : 0.1V	2.3V		
9 : 2.3V	0.1V		
10 : 0.7V	0.7V		
11 : 0.1V	0.1V		
12 : 0.1V	0.1V		
13 : 0.1V	1.9V		
14 : 3.2V	0.1V		

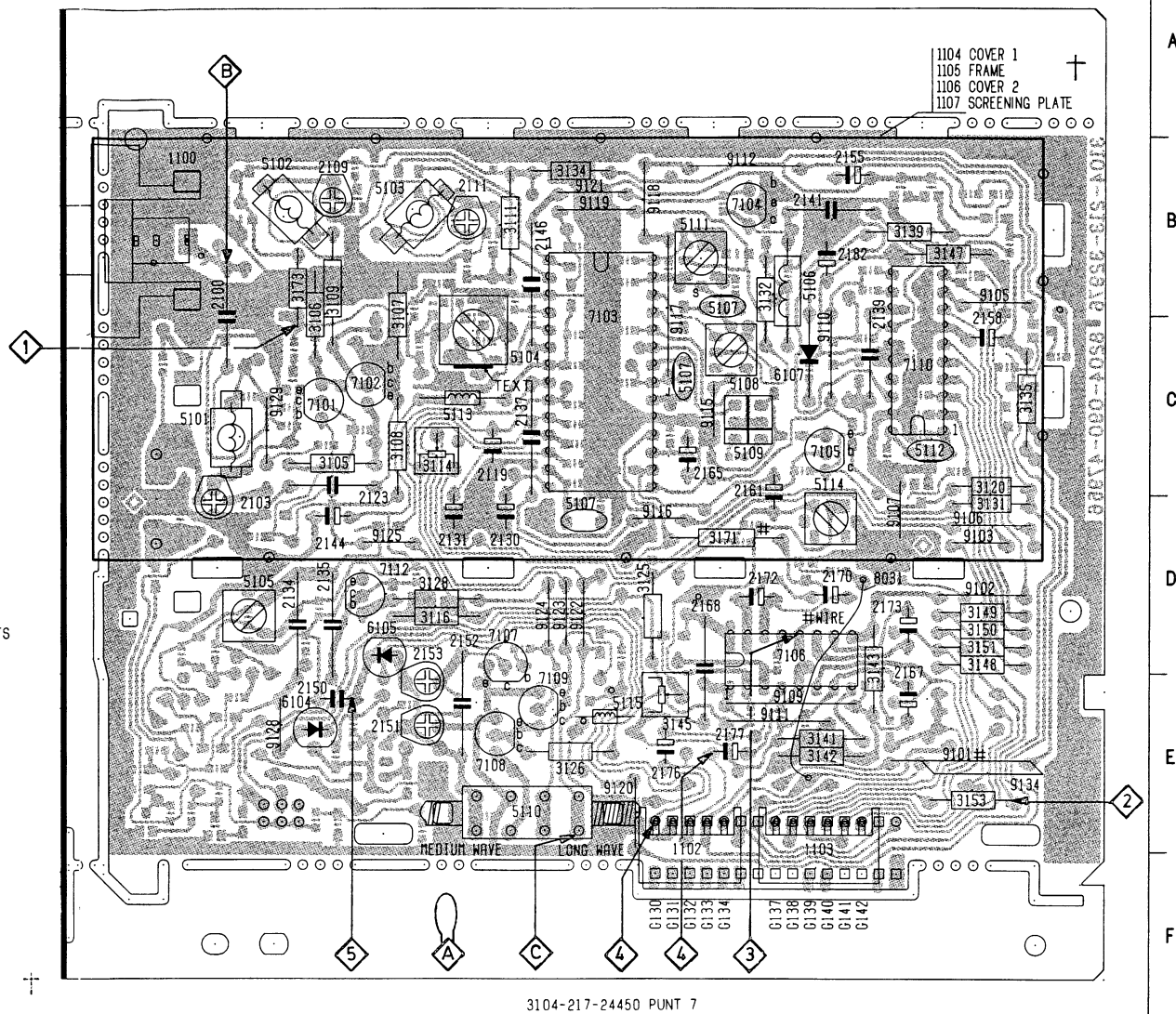


1100 B 3 3171 D 6
1102 E 6 3173 B 4
1103 E 6 5101 C 3
1104 A 7 5102 B 4
1105 A 7 5103 B 4
1106 A 7 5104 C 5
1107 A 7 5105 D 3
2100 B 3 5106 B 7
2103 D 3 5107 D 5
2109 B 4 5107 B 6
2111 B 5 5107 C 6
2119 C 5 5108 C 6
2123 D 4 5109 C 6
2130 D 5 5110 E 5
2131 D 5 5111 B 6
2134 D 4 5112 C 7
2135 D 4 5113 C 5
2137 C 5 5114 C 7
2139 B 7 5115 E 6
2141 B 7 6104 E 4
2144 D 4 6105 D 4
2146 B 5 6107 C 6
2150 E 4 7101 C 4
2151 E 4 7102 C 4
2152 D 5 7103 C 5
2153 D 4 7104 B 6
2155 B 7 7105 C 7
2158 C 8 7106 D 6
2161 C 6 7107 D 5
2165 C 6 7108 E 5
2167 E 7 7109 E 5
2168 D 6 7110 C 7
2170 D 7 7112 D 4
2172 D 6 8031 D 7
2173 D 7 9101 E 7
2176 E 6 9102 D 8
2177 E 6 9103 D 8
2182 B 7 9105 B 8
3105 C 4 9106 D 7
3106 C 4 9107 D 7
3107 B 4 9109 E 6
3108 C 4 9110 C 7
3109 B 4 9111 E 6
3111 B 5 9112 B 6
3114 C 4 9115 C 6
3116 D 4 9116 D 6
3120 C 8 9117 C 6
3125 D 6 9118 B 6
3126 E 5 9119 B 5
3128 D 4 9120 E 6
3131 D 8 9121 B 5
3132 B 6 9122 D 5
3134 B 5 9123 D 5
3135 C 8 9124 D 5
3139 B 7 9125 D 4
3141 E 7 9128 E 4
3142 E 7 9129 C 4
3143 D 7 9134 E 8
3145 E 6 WIRE D 7
3147 B 7
3148 D 8
3149 D 8
3150 D 8
3151 D 8
3153 E 8

TUNER BOARD

: ONLY AUTOSTORE SETS

FTZ /02
AS 9400
AS 9500
AS 9600



7106

	FM	AM	FM	AM
1	: 10.9V	11.1V	11	: 1.3V
2	: 1.4V	1.4V	12	: -
3	: 1.5V	1.5V	13	: 1.3V
4	: 2.6V	2.6V	14	: 1.3V
5	: 2.6V	2.6V	15	: 1.3V
6	: -	5.0V	16	: 0.2V
	5.0V			
	0.7V			
7	: 0V	0V		
8	: 0.5V	0.5V		
9	: -	2.3V		
	2.3V			
	0.1V			
10	: 1.3V	1.3V		

7110

	FM	AM	FM	AM
1	: 1.8V	1.8V	15	: 5.6V
2	: -	-	16	: 5.6V
3	: -	-	17	: -
4	: -	-	18	: 1.1V
5	: -	-	19	: 0V
6	: 0.2V	0.2V	20	: 0.9V
7	: 0V	0V		
8	: 0.1V	2.3V		
9	: 2.3V	0.1V		
10	: 0.7V	0.7V		
11	: 0.1V	0.1V		
12	: 0.1V	0.1V		
13	: 0.1V	1.9V		
14	: 3.2V	0.1V		

7102

e	: 12.1V
b	: 11.3V
c	: 0.5V

7105

e	: 0V
b	: 1.6V
c	: 0.6V

7107

e	: 0V
b	: -
c	: 0.3V

7108

e	: 0V
b	: 0.7V
c	: -

7109

e	: 0V
b	: -
c	: 0.7V

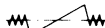
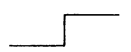
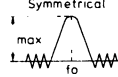
7112

e	: 0V
b	: -
c	: 6.0V

7104

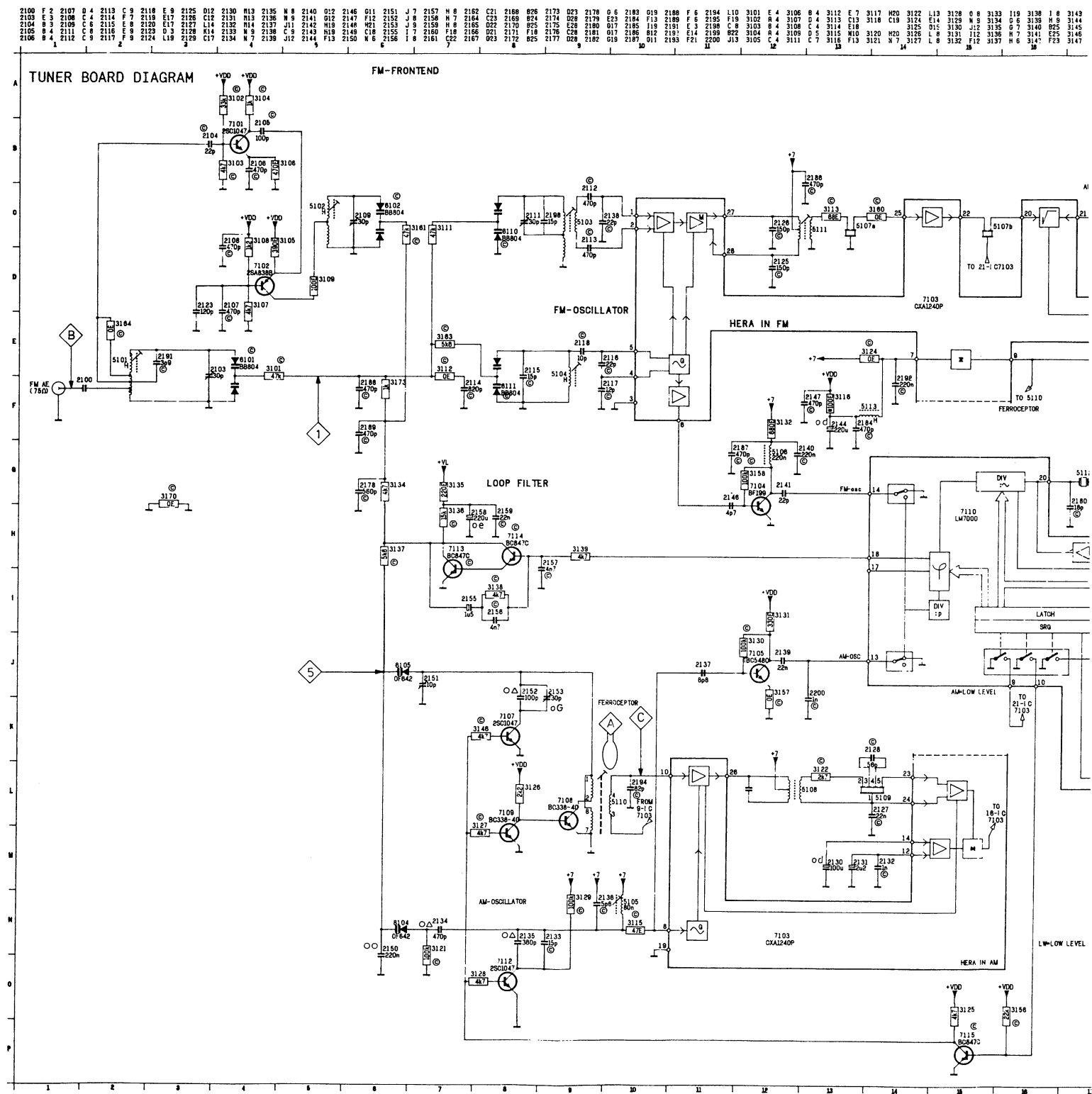
	FM	AM
e	: 0V	0V
b	: 0.7V	0.7V
c	: 3.2V	3.9V

....V measured in radio on position
_V measured in radio mono on position
__V measured in radio stereo on position

SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz	5104	1	8.0V (10.0V)
			87.5MHz	check		2.7V ± 0.4V (1.15V ± 0.25V)
LW + 148-284kHz			284kHz 148kHz	5105 check	5	7.8V 1.0V ± 0.25V
MW 522-1611kHz			1611kHz 522kHz	check check		8.0V ± 0.5V 2.0V ± 0.3V
FM-IF						
FM	108MHz Δf=500kHz (50Hz)	B	108MHz	5111	4	 Symm + Linear
FM-RF						
FM	87.5MHz mod = 1kHz Δf = 22.5kHz	B	87.5MHz	5103 (5102) (5101)	4	max. 
	108MHz mod = 1kHz Δf = 22.5kHz		108MHz	2111 (2109) (2103)		
Stereo decoder / Search sensitivity						
FM	98MHz carrier 1mV	B	98MHz	3145 #	3	19 ± 0.05kHz
	98MHz carrier 12μV			3114	2	 5V 0V
AM-IF						
MW	450kHz \$ Δf = 10kHz (50Hz)	C	522kHz	5108	4	 Symmetrical
AM-RF						
MW	603kHz * 1494kHz *	A	603kHz 1494kHz	5110 2151	4	max. 
LW +	155kHz * 275kHz *		155kHz 275kHz	5110 2153		

* Mod 1kHz 30% AM
\$ via 100nF
(..) For FTZ versions only
Temporary ground pin 9 of 7106
+ For LW version only

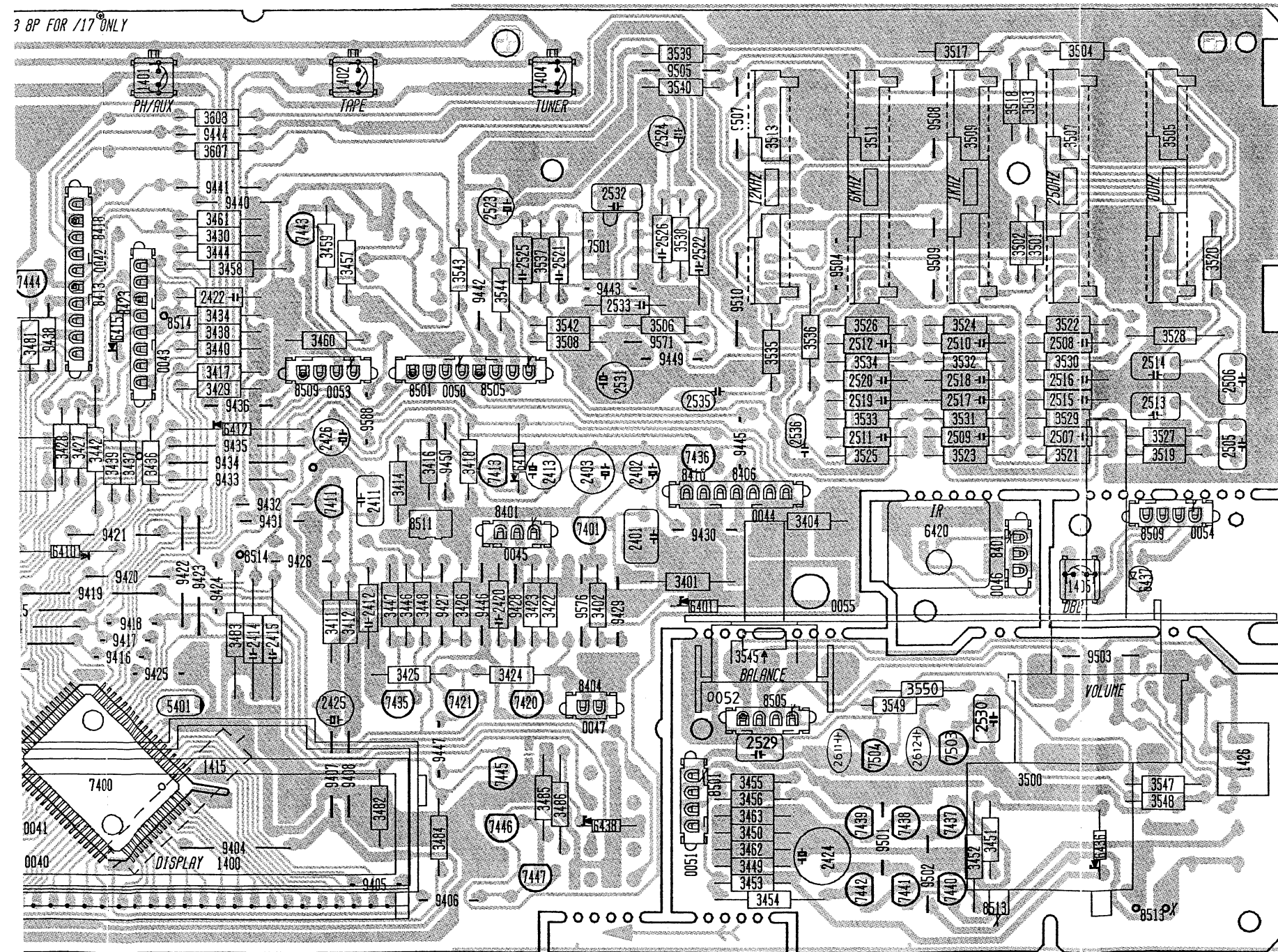
Repeat



FRONT BOARD / COMPONENTSIDE VIEW

F 10	3440	D 8	3455	G12	3466	G11	3518	B14	3532	D14	3548	G15	3564	D 5	3586	D 4	3602	E 2	3618	B 3	6420	E14	6561	E 5	7435	F 9	7503	G14	2553	C 5	2615	C 2		
E10	3441	G 5	3456	G12	3500	G14	3519	D15	3533	D13	3549	F13	3565	E 4	3587	D 5	3603	C 2	3606	D 4	6436	E15	6562	E 5	7436	D12	7504	F13	2554	B 5	2616	E 2		
D 7	3442	D 7	3457	C 9	3501	C14	3520	C16	3534	D13	3550	F14	3566	E 4	3588	D 4	3604	E 2			6437	E15	6563	B 3	7437	G14	7551	B 4	2601	C 3	3573	C 5		
D 7	3444	C 8	3458	C 8	3502	C14	3521	D14	3535	D12	3551	B 3	3567	E 4	3589	B 3	3607	B 8			3621	F 3	6438	G11	6564	B 3	7438	G13	7552	D 2	2602	D 3	3574	B 5
D 8	3445	G 6	3459	C 9	3503	B14	3522	C14	3536	C13	3552	B 3	3568	E 4	3590	B 3	3608	B 8			3622	F 2	6551	C 3	6565	C 3	7439	G13	7553	E 3	2603	C 4	3575	C 5
C 8	3446	E10	3460	C 9	3504	A15	3523	D14	3537	C11	3553	C 6	3569	C 5	3591	C 3	3609	F 1	3623	D 1	6552	D 3	6566	C 3	7440	H14	7554	F 3	2604	C 3	3576	B 5		
G 6	3447	E 9	3461	C 8	3505	B15	3524	C14	3538	C12	3556	C 6	3570	B 6	3592	C 3	3610	F 2	3624	C 2	6553	C 3	6567	F 2	7441	H13			2607	E 3	3577	C 4		
G 6	3448	E10	3462	G12	3506	C11	3525	D13	3539	A12	3557	D 5	3571	C 5	3593	C 2	3611	F 2	5401	F 8	6554	D 3	7400	G 7	7442	H13	2569	C 4	2608	E 3	3578	B 5		
G 6	3449	G12	3463	G12	3507	B15	3526	C13	3540	B12	3558	D 5	3572	B 5	3596	E 3	3612	F 2	6401	E12	6555	E 4	7401	E11	7443	C 9	2570	B 4	2609	D 3	3579	C 4		
C 8	3450	G12	3481	C 7	3508	C11	3527	D15	3542	C11	3559	D 5	3581	C 4	3597	C 2	3613	F 1	6410	E 7	6556	E 4	7403	G 5	7444	C 7	2571	C 4	2610	D 3	3580	B 4		
D 8	3451	G14	3482	G 9	3509	B14	3528	C15	3543	C10	3560	D 5	3582	C 4	3598	E 3	3614	F 2	6411	D10	6557	E 3	7411	E 9	7445	G10	2572	B 4	2611	G13				
D 7	3452	G14	3483	F 8	3511	B13	3529	D14	3544	C10	3561	E 5	3583	C 5	3599	C 2	3615	D 4	6412	D 8	6558	E 3	7413	D10	7446	G10	2578	B 5	2612	G14				
C 8	3453	G12	3484	G10	3513	B12	3530	D14	3545	F12	3562	D 5	3584	C 4	3600	E 2	3616	B 4	6413	G 5	6559	F 3	7420	F10	7447	G10	2597	C 5	2613	E 2	5402	C 6		
D 7	3454	H12	3485	G11	3517	A14	3531	D14	3547	G15	3563	E 5	3585	D 4	3601	C 2	3617	B 3	6415	C 7	6560	F 3	7421	F10	7501	C11	2598	B 5	2614	F 2	5403	E 6		
	7		8		9		10		11		12		13		14		15		16															

3 BP FOR /17 ONLY



8401	E14	9502	G13
8401	E10	9503	F15
8404	F11	9504	C13
8406	D12	9505	A12
8410	D12	9507	B12
8413	C 7	9508	B13
8418	C 7	9509	C13
8423	C 7	9510	C12
8501	G12	9551	F 2
8501	D10	9552	F 2
8505	D10	9553	F 3
8505	F12	9554	E 4
8509	D 9	9556	F 5
8509	E15		
8511	E10		
8513	H14	9559	D 3
8513	H15	9560	D 3
8514	C 8	9561	F 5
8514	E 9	9565	C 5
8551	A 3		
9401	G 6	9571	C11
9402	G 6	9576	E11
9403	G 7		
9404	G 8		
9405	H 9		
9406	H10		
9407	G 9		
9408	G 9		
9409	F 6	9587	C 3
9410	F 6	9588	D 9
9411	F 6		
9412	F 6		
9413	F 6		
9414	F 7		
9415	E 7		
9416	F 7		
9417	F 7		
9418	F 7		
9419	E 7		
9420	E 7		
9421	E 7		
9422	E 8		
9423	E 8		
9424	E 8		
9425	F 8		
9426	E 9		
9427	E10		
9428	E10		
9429	E11		
9430	E12		
9431	E 9		
9432	E 8		
9433	D 8		
9434	D 8		
9435	D 8		
9436	D 8		
9438	C 7		
9440	B 8		
9441	B 8		
9442	C10		
9443	C11		
9444	B 8		
9445	D12		
9446	E10		
9447	G10		
9449	D12		
9450	D10		
9501	G13		

8
C
D
E
F
G
H
I
J



UNLESS SPECIFIED ARE TUBULAR CERAMIC CAPACITOR
 ARE CR25 RESISTOR

UNLESS SPECIFIED ARE ELECTROLYTIC CAPACITOR 63V
 ARE TUBULAR CERAMIC CAPACITOR
 ARE CR25 RESISTOR

ITEM MARKED ■	AS9510/42	OTHERS	AS9513/XX
2575	47U	AS SHOWN	47 U
2595,2596	100P	AS SHOWN	DELETE
3555,3556	560E	AS SHOWN	560 E
3569,3570	56K	AS SHOWN	DELETE
3583,3584	100K	AS SHOWN	8K2
3581,3582	120K	AS SHOWN	120 K
2573	AS SHOWN	AS SHOWN	470U

▲ FOR AS9513 VERSIONS ONLY

A	551	A I	3502	F I1
	552	G I4	3503	C I0
	553	F I1	3506	F I0
	554A	B 3	3509	F I2
	554B	E 3	3510	C I2
	554C	C 3	3511	D I3
	554D	F 3	3512	E I3
	555	C I1	3513	C I3
	555A	H 3	3514	F I3
	556	H 3	3515	A I5
B	556A	H 3	3516	G I5
	556B	H 3	3517	D I6
	556C	D I0	3518	G I5
	556D	E 6	3522	H I2
	556E	B 5	3524	H I2
	556F	A 5	5402	G I2
	556G	C 5	5403	G I4
	556H	F 8	6551	A I0
	556I	D 8	6552	D I9
	556J	H 5	6553	C I9
C	556K	H 5	6554	C I9
	556L	H 5	6555	C I9
	556M	H 5	6556	F I9
	556N	H 5	6557	F I9
	556O	J 4	6558	D I8
	556P	J 4	6559	D I8
	556Q	J 4	6560	G I8
	556R	G 6	6561	C I8
	556S	G 6	6562	F I8
	556T	J 4	6563	B I8
D	556U	J 4	6564	B I8
	556V	F I0	6565	C I8
	556W	F I0	6566	C I8
	556X	B I0	6567	G I3
	556Y	B I0	7551A	H I3
	556Z	B I0	7551B	I I5
	557	H I0	7552	B I1
	557A	C I1	7553	C I2
	557B	B I1	7554	F I2
	557C	B I1		
E	557D	B I1		
	557E	B I1		
	557F	B I1		
	557G	B I1		
	557H	B I1		
	557I	B I1		
	557J	B I1		
	557K	B I1		
	557L	B I1		
	557M	B I1		
F	557N	B I1		
	557O	B I1		
	557P	B I1		
	557Q	B I1		
	557R	B I1		
	557S	B I1		
	557T	B I1		
	557U	B I1		
	557V	B I1		
	557W	B I1		
G	557X	B I1		
	557Y	B I1		
	557Z	B I1		
	558	B I1		
	558A	B I1		
	558B	B I1		
	558C	B I1		
	558D	B I1		
	558E	B I1		
	558F	B I1		
H	558G	B I1		
	558H	B I1		
	558I	B I1		
	558J	B I1		
	558K	B I1		
	558L	B I1		
	558M	B I1		
	558N	B I1		
	558O	B I1		
	558P	B I1		
I	558Q	B I1		
	558R	B I1		
	558S	B I1		
	558T	B I1		
	558U	B I1		
	558V	B I1		
	558W	B I1		
	558X	B I1		
	558Y	B I1		
	558Z	B I1		
J	559	B I1		
	559A	B I1		
	559B	B I1		
	559C	B I1		
	559D	B I1		
	559E	B I1		
	559F	B I1		
	559G	B I1		
	559H	B I1		
	559I	B I1		

+V : 11.0V

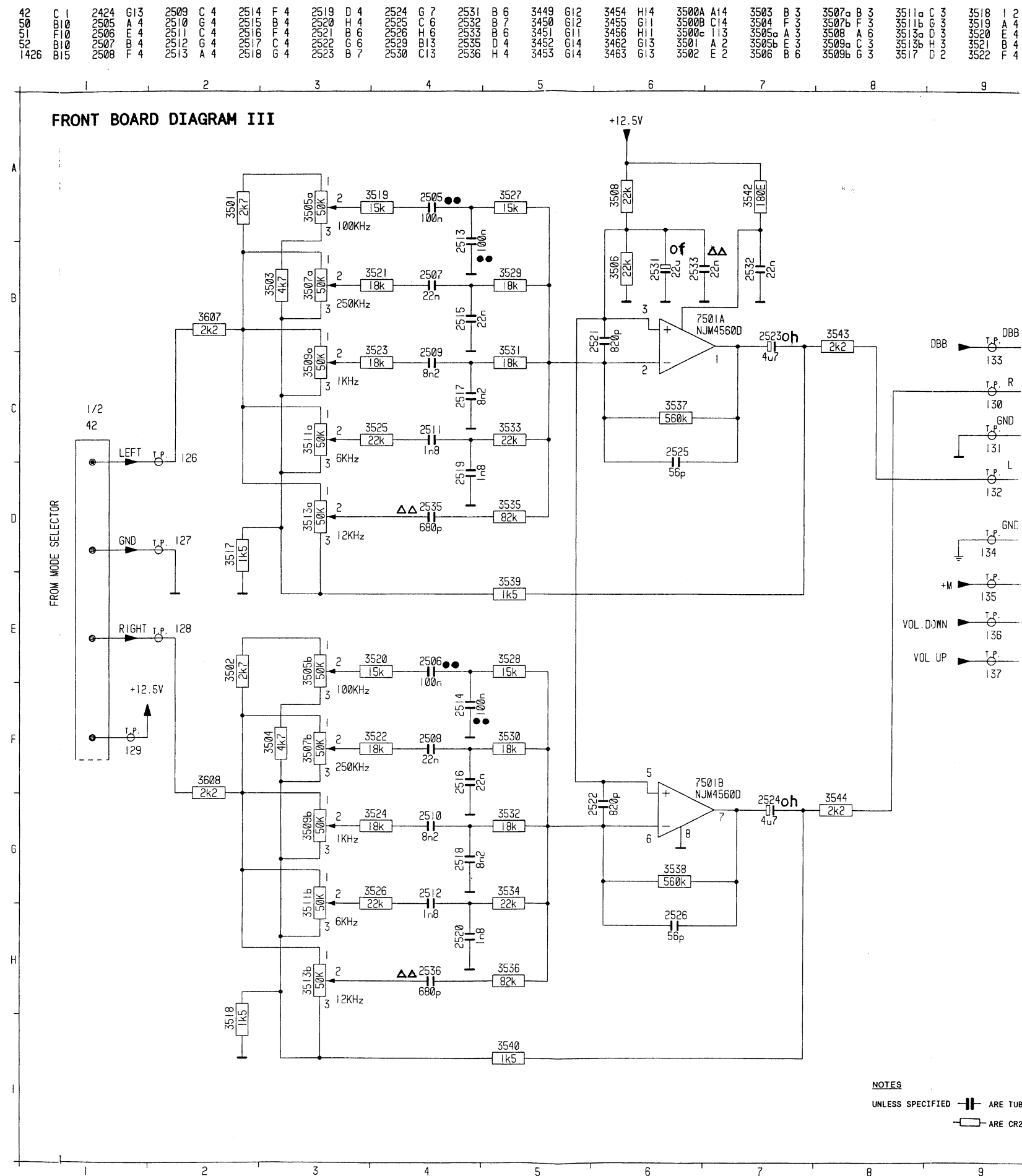
MOT : 12.5V

7401 7420 7421
e : 5.1V 5.0V 0V
b : 5.7V 5.0V 0V
c : 16.5V 0V 3.7V

7443 7445 7446
e : 5.1V 5.0V 10.7V
b : 5.7V 5.0V 10.1V
c : 16.5V 0V 10.0V

7501 7552
1 : 6.2V 1 : 4.8V
2 : 6.2V 2 : 4.8V
3 : 6.2V 3 : 4.8V
4 : 0V 4 : 0V
5 : 6.2V 5 : 4.8V
6 : 6.2V 6 : 4.8V
7 : 6.2V 7 : 4.8V
8 : 11.7V 8 : 9.6V

ITEM	NORMAL	VOLUME DOWN	VOLUM UP
7437			
e :	10.2V	0.7V	6.1V
b :	9.3V	0V	6.8V
c :	12.5V	9.0V	9.0V
7438			
e :	10.2V	0.7V	6.1V
b :	9.3V	0V	6.8V
c :	0V	0V	0V
7439			
e :	0V	0V	0V
b :	0.5V	0.7V	0.2V
c :	9.3V	0V	6.8V
7440			
e :	10.2V	6.1V	0.7V
b :	9.3V	6.8V	0V
c :	12.5V	9.0V	9.0V
7441			
e :	10.2V	6.1V	0.7V
b :	9.3V	6.8V	0V
c :	0V	0V	0V
7442			
e :	0V	0V	0V
b :	0.2V	0.2V	0.7V
c :	9.3V	6.8V	0V



42	C 1	2424	G13	2509	C 4	2514	F 4	2519	D 4	2524	G 7	2531	B 6	3449	G12	3454	H14	3500A	A14	3503	B 3	3507a	B 3	3511a	C 3	3518	I 2	3523	C 4	3528	E 5	3533	C 5	3538	G 6	3544	G 8	3550	C12	7438	H12	7501A	B 6
50	B10	2505	A 4	2510	G 4	2515	B 4	2520	D 4	2525	C 6	2532	B 7	3450	G12	3455	G11	3500B	C14	3504	F 3	3507b	F 3	3511b	C 3	3519	A 4	3524	G 4	3529	B 5	3534	G 5	3539	F 5	3545	B11	3607	B 2	7439	I12	7501B	F 6
51	F10	2506	E 4	2511	C 4	2516	C 4	2521	B 6	2526	H 6	2533	B 6	3451	G11	3456	H11	3500c	I13	3505a	A 3	3508	A 6	3513a	D 3	3520	F 4	3525	C 4	3530	C 5	3535	D 5	3540	I 5	3547	A14	3608	F13	7440	H13	7503	B13
52	B10	2507	B 4	2512	G 4	2517	C 4	2522	B 6	2527	B13	2535	D 4	3452	G14	3462	G13	3501	A 2	3505b	F 3	3509a	C 3	3513b	H 3	3521	B 4	3526	G 4	3531	C 5	3536	H 5	3542	A 7	3548	C14	6436	F13	7441	H13	7504	C13
1426	B15	2508	F 4	2513	A 4	2518	G 4	2523	B 7	2530	C13	2536	H 4	3453	G14	3463	G13	3502	E 2	3506	B 6	3509b	G 3	3517	D 2	3522	F 4	3527	A 5	3532	G 5	3537	C 6	3543	B 8	3549	B12	7437	H12	7442	I14		

FRONT BOARD DIAGRAM III

VOLUM
UP

6.1V
6.8V
9.0V

6.1V
6.8V
9V

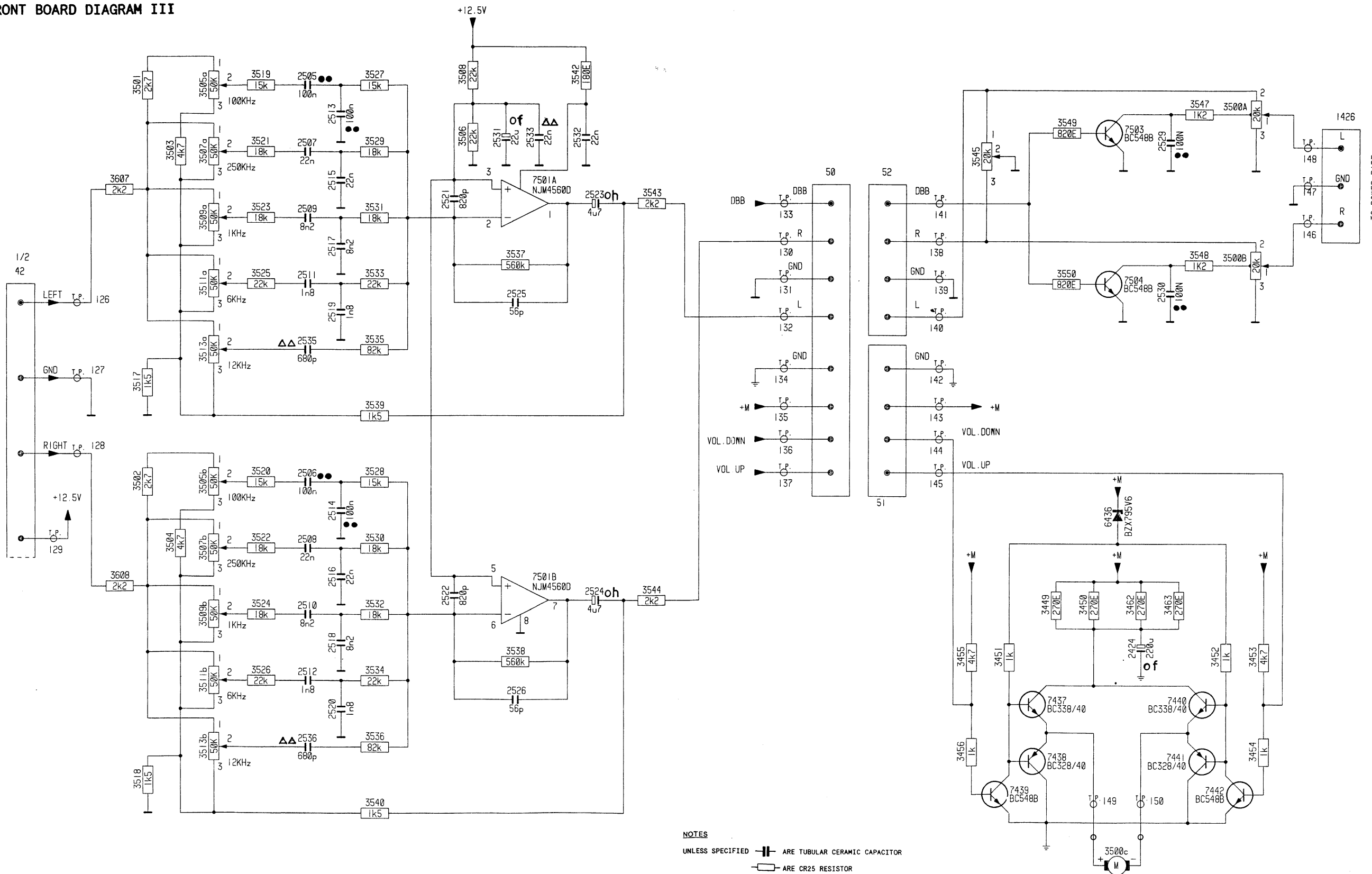
9V
9.2V
9.8V

9.7V
9V
9.0V

9.7V
9V
9V

9V
9.7V
9V

FROM MODE SELECTOR

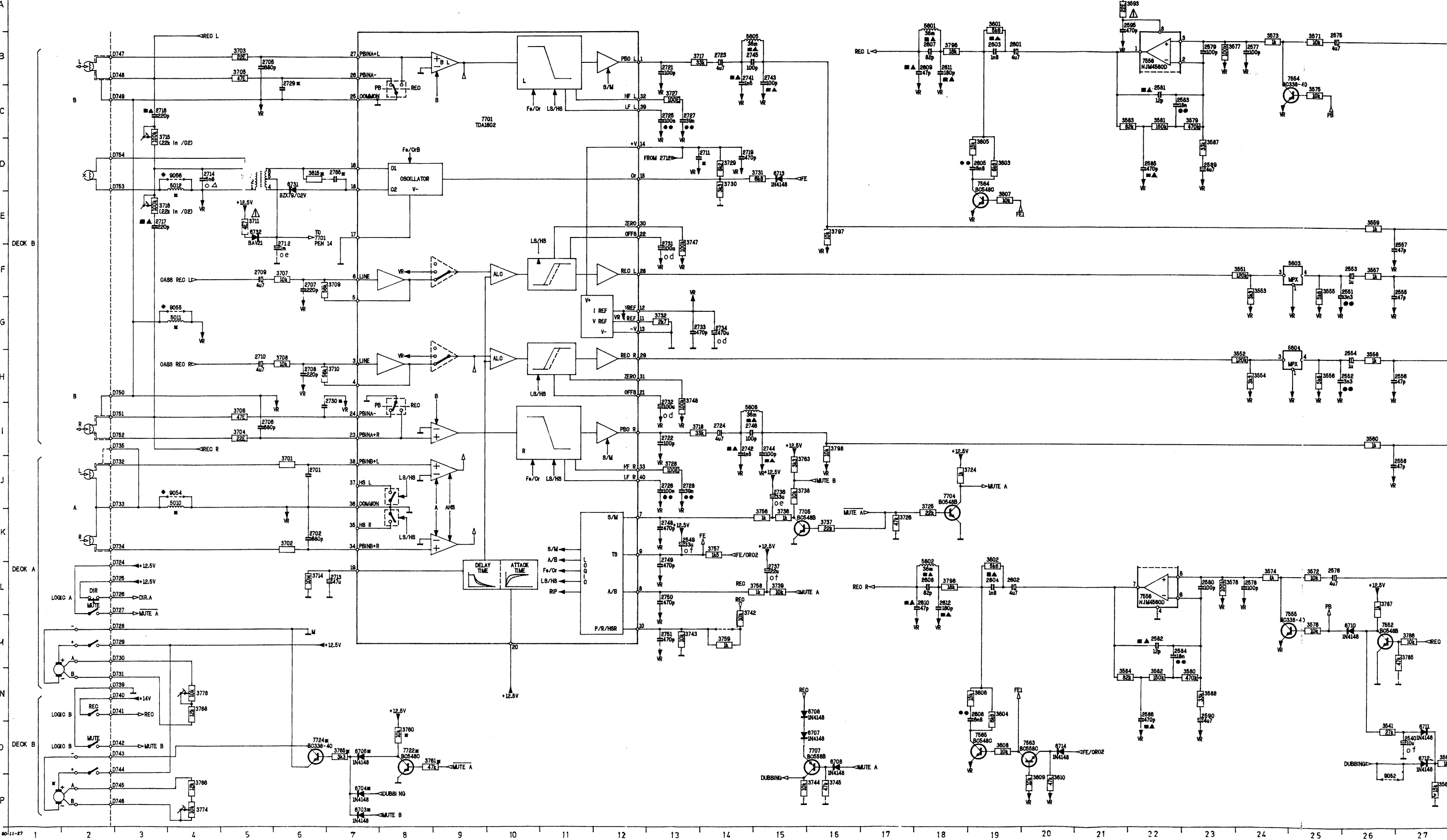


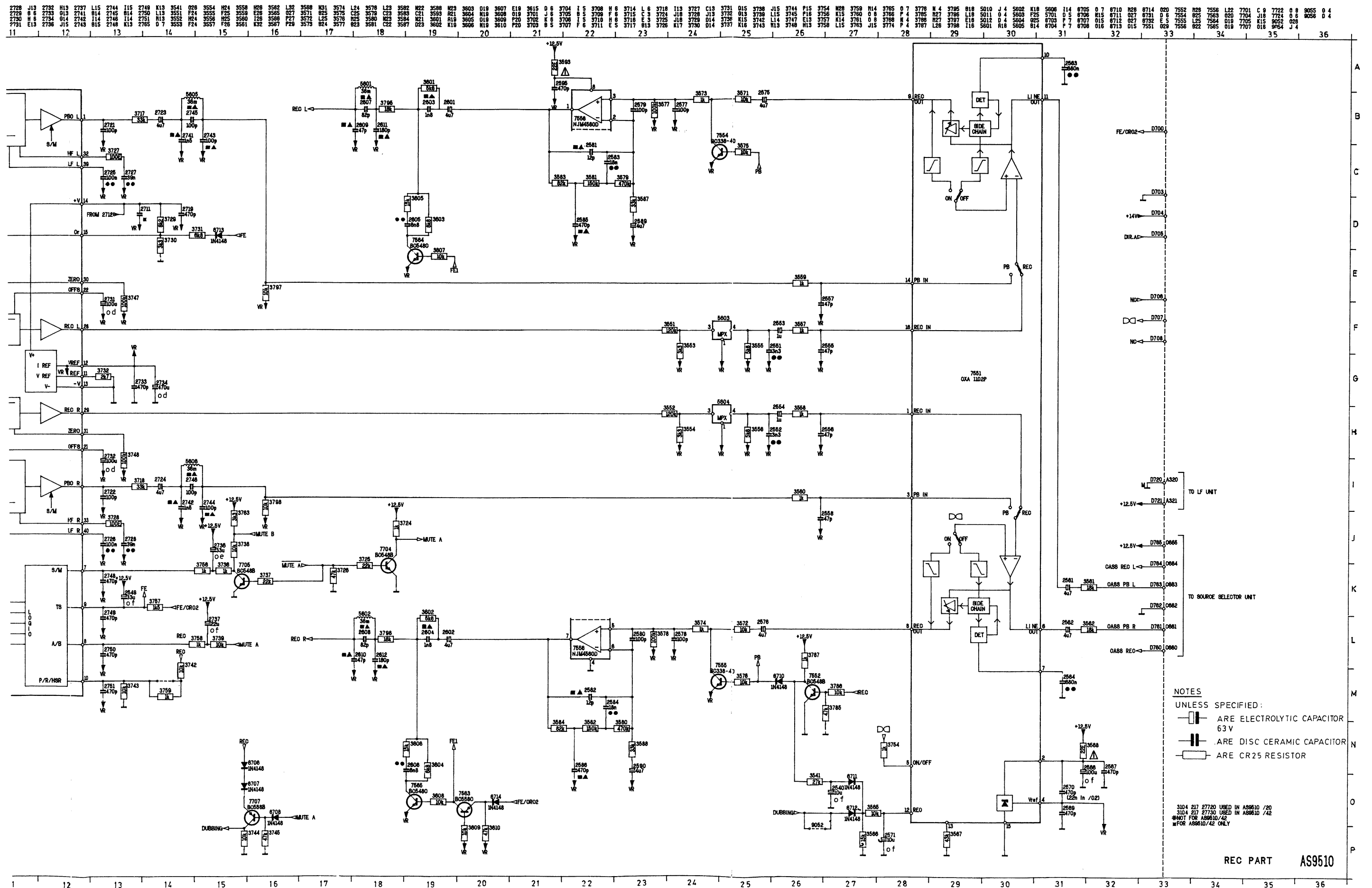
NOTES

UNLESS SPECIFIED ARE TUBULAR CERAMIC CAPACITOR
 ARE CR25 RESISTOR

2540 027 2553 F26 2557 E26 2563 R31 2569 031 2576 L25 2580 L23 2584 R22 2590 R23 2603 019 2607 018 2611 018 2705 05 2709 F5 2713 L6 2719 014 2724 114 2728 J13 2732 R13 2737 L15 2744 115 2749 K13 3541 026 3554 R24 3558 R25 3562 L32 3568 R31 3574 L24 3578 L23 3582 R22 3588 R23 3603 019 3607 018 3615 06 3704 I5 3708 H6 3714 L6 3718 L13 3727 C13 3731 015 3738 J15 3744 P15 3754 R26 3759 H2549 M13 2554 R26 2558 J26 2564 R31 2570 031 2577 R24 2581 C22 2585 R22 2590 R23 2604 L18 2608 018 2612 L18 2706 I5 2710 H5 2714 04 2721 013 2725 C13 2729 06 2733 013 2741 014 2745 014 2750 L13 3551 F24 3555 F25 3559 E26 3565 027 3571 R25 3575 C25 3579 C23 3583 C21 3589 R21 3604 019 3608 019 3701 J6 3705 05 3709 H6 3715 C3 3724 J18 3728 J13 3732 013 3738 J15 3745 F18 3755 K15 3760 02551 F25 2555 F26 2561 K31 2566 R31 2571 F28 2576 L24 2582 R22 2586 R22 2601 019 2605 018 2609 017 2701 J6 2707 F6 2711 013 2716 C3 2722 013 2726 C13 2730 06 2734 014 2742 014 2746 014 2751 R13 3552 R24 3556 R25 3560 I28 3566 F27 3572 L25 3576 R25 3580 R23 3584 R21 3601 019 3605 018 3609 017 3702 K6 3706 I5 3710 H6 3716 E3 3725 J18 3729 014 3736 R15 3742 L14 3747 E13 3757 K14 3761 02552 R25 2556 R26 2562 L31 2567 R32 2575 R25 2579 R23 2583 C22 2588 R22 2602 L18 2606 018 2610 017 2702 K6 2706 H6 2712 E5 2717 E3 2723 014 2727 C13 2731 06 2736 J15 2743 015 2748 015 2753 07 3553 F24 3557 F25 3561 R25 3567 F26 3573 R24 3577 R23 3581 C22 3587 R23 3602 019 3606 018 3610 017 3703 05 3707 F6 3711 E5 3717 013 3726 K17 3730 014 3737 R16 3743 R13 3748 R13 3758 L15 3763 J1

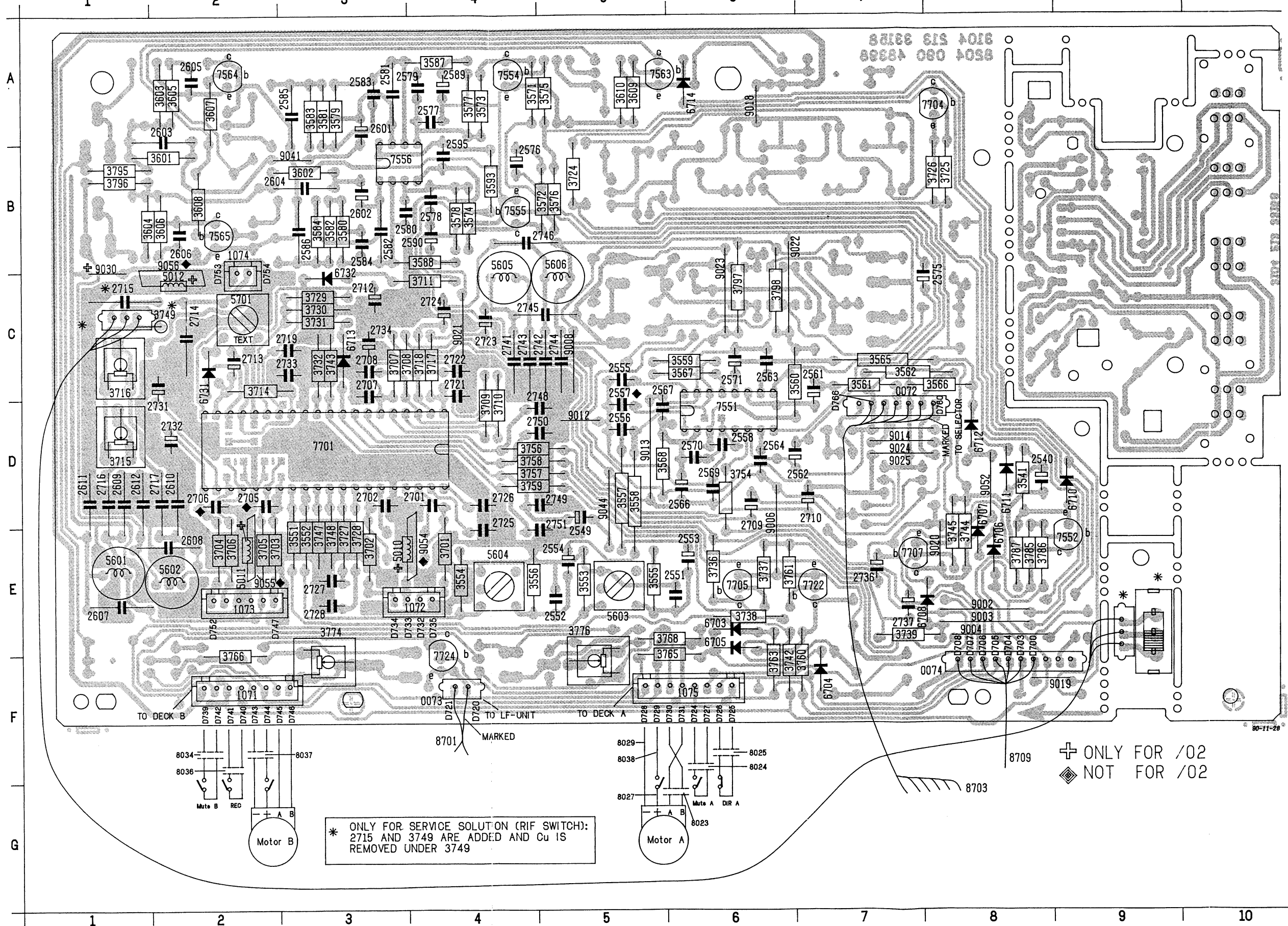
RECORDER BOARD DIAGRAM

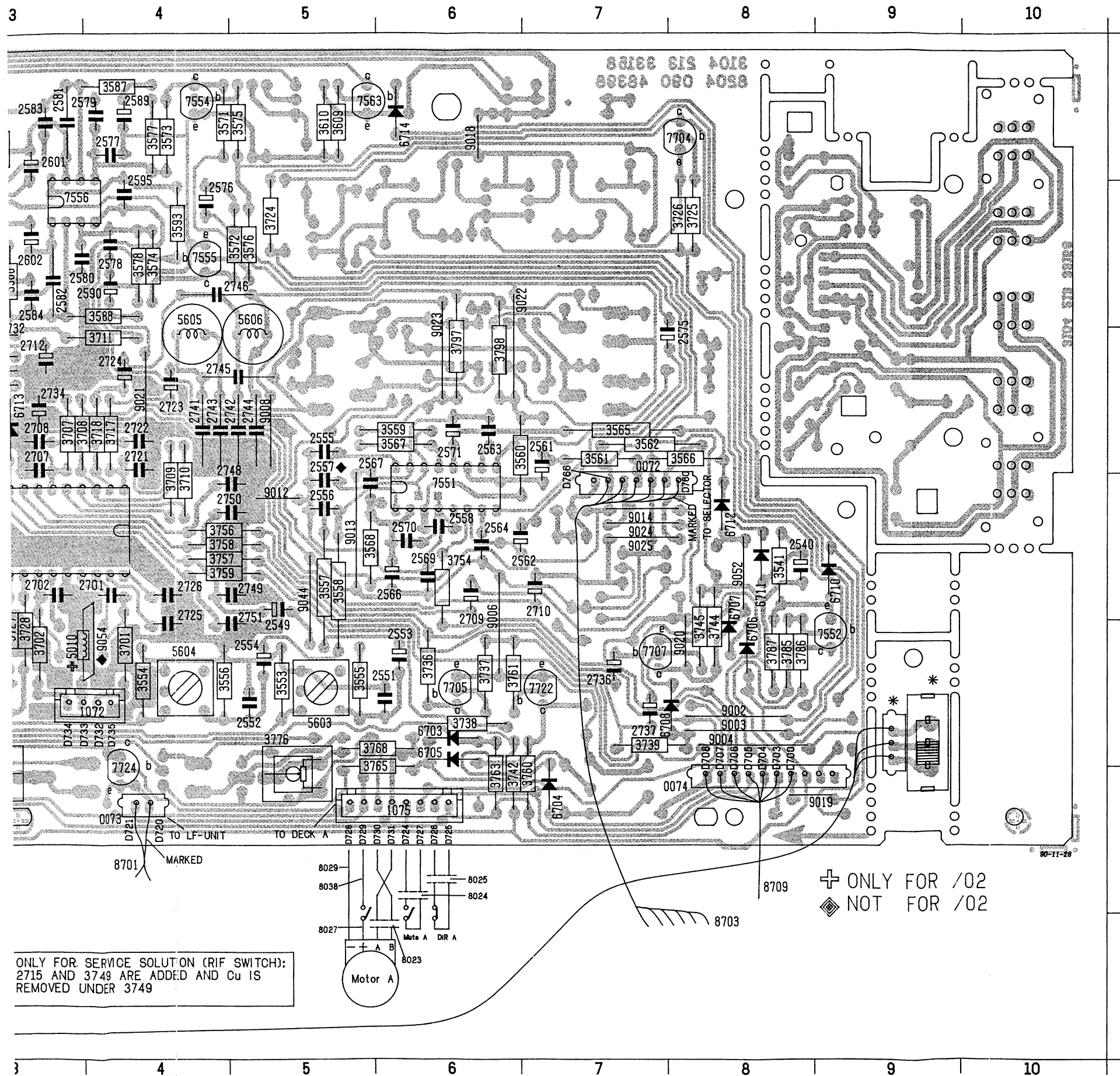




RECORDER BOARD

0072	C	7	2727	E	3	3716	C	1	7704	A	8
0073	F	4	2728	E	3	3717	C	4	7705	E	6
0074	F	8	2731	D	2	3718	C	4	7707	E	7
1071	F	2	2732	D	2	3724	B	5	7722	E	7
1072	E	4	2733	C	3	3725	B	8	7724	F	4
1073	E	2	2734	C	3	3726	B	8	8701	F	4
1074	B	2	2736	E	7	3727	E	3	8703	G	8
1075	F	6	2737	E	7	3728	E	3	8709	F	8
2540	D	8	2741	C	4	3729	C	3	9002	E	8
2549	E	5	2742	C	5	3730	C	3	9003	E	8
2551	E	6	2743	C	4	3731	C	3	9004	E	8
2552	E	5	2744	C	5	3732	C	3	9006	D	6
2553	E	6	2745	C	4	3736	E	6	9008	C	5
2554	E	5	2746	B	5	3737	E	6	9012	D	5
2555	C	5	2748	D	5	3738	E	6	9013	D	5
2556	D	5	2749	D	5	3739	E	7	9014	D	7
2557	C	5	2750	D	5	3742	F	6	9018	A	6
2558	D	6	2751	E	5	3743	C	3	9019	F	9
2561	C	7	3541	D	8	3744	E	8	9020	E	8
2562	D	7	3551	E	3	3745	E	8	9021	C	4
2563	C	6	3552	E	3	3747	E	3	9022	B	7
2564	D	6	3553	E	5	3748	E	3	9023	B	6
2566	D	6	3554	E	4	3749	C	2	9024	D	7
2567	C	5	3555	E	5	3754	D	6	9025	D	7
2569	D	6	3556	E	4	3756	D	4	9030	B	1
2570	D	6	3557	D	5	3757	D	4	9041	B	3
2571	C	6	3558	D	5	3758	D	4	9044	D	5
2575	C	8	3559	C	6	3759	D	4	9052	D	8
2576	B	4	3560	C	7	3760	F	7	9054	E	4
2577	A	4	3561	C	7	3761	F	6	9055	E	2
2578	B	4	3562	C	7	3763	F	6	9056	B	2
2579	A	4	3565	C	7	3765	F	6			
2580	B	4	3566	C	8	3766	F	2			
2581	A	3	3567	C	6	3768	E	6			
2582	B	3	3568	D	5	3774	E	3			
2583	A	3	3571	A	4	3776	E	5			
2584	B	3	3572	B	5	3785	E	8			
2585	A	3	3573	A	4	3786	E	8			
2586	B	3	3574	B	4	3787	E	8			
2589	A	4	3575	A	5	3795	B	1			
2590	B	4	3576	B	5	3796	B	1			
2595	B	4	3577	A	4	3797	C	6			
2601	A	3	3578	B	4	3798	C	6			
2602	B	3	3579	A	3	5010	E	3			
2603	A	2	3580	B	3	5011	E	2			
2604	B	2	3581	A	3	5012	C	2			
2605	A	2	3582	B	3	5601	E	1			
2606	B	2	3583	A	3	5602	E	2			
2607	E	1	3584	B	3	5603	E	5			
2608	E	2	3587	A	4	5604	E	4			
2609	D	1	3588	B	4	5605	B	4			
2610	D	2	3593	B	4	5606	B	5			
2611	D	1	3601	B	2	5701	C	2			
2612	D	1	3602	B	3	6703	C	6			
2701	D	4	3603	A	2	6704	F	7			
2702	D	3	3604	B	2	6705	E	6			
2705	D	2	3605	A	2	6706	E	8			
2706	D	2	3606	B	2	6707	E	8			
2707	C	3	3607	A	2	6708	E	8			
2708	C	3	3608	B	2	6710	D	9			
2709	E	6	3609	A	5	6711	D	8			
2710	D	7	3610	A	5	6712	D	8			
2712	C	3	3701	E	4	6713	C	3			
2713	C	2	3702	E	3	6714	A	6			
2714	C	2	3703	E	2	6731	C	2			
2715	C	1	3704	E	2	6732	C	3			
2716	D	1	3705	E	2	7551	D	6			
2717	D	2	3706	E	2	7552	E	9			
2719	C	3	3707	C	3	7554	A	4			
2721	C	4	3708	C	4	7555	B	4			
2722	C	4	3709	D	4	7556	B	3			
2723	C	4	3710	D	4	7563	A	5			
2724	C	4	3711	C	4	7564	A	2			
2725	D	4	3714	C	2	7565	B	2			
2726	D	4	3715	D	1	7701	D	3			





Bias Oscillator Adjustment

Adjust	Voltages across the 3703 or 3704
3715	13mV in Cr mode
3716	13mV in Cr mode

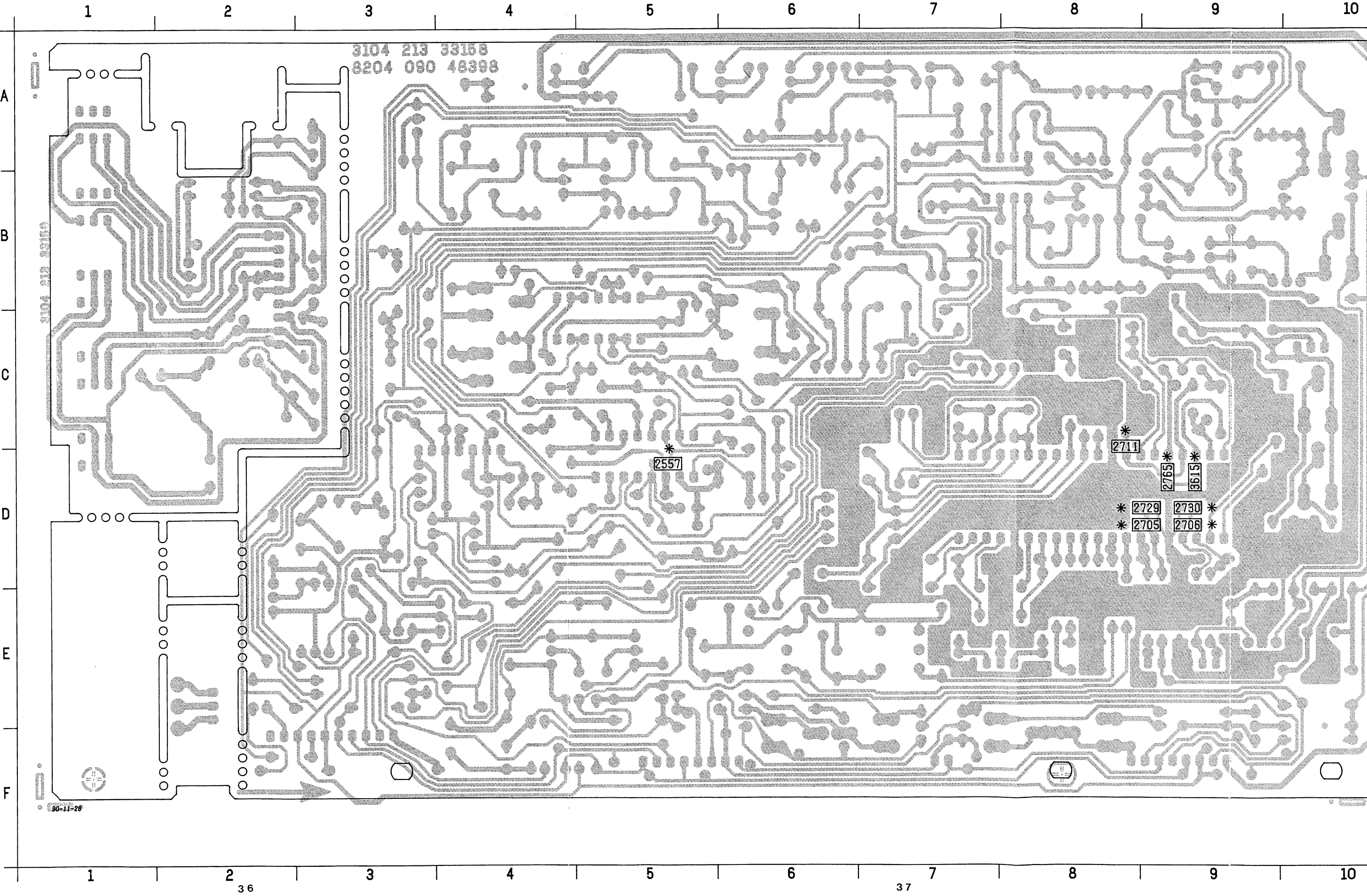
7564	7565	7704	7705	7707
e : 5.9V	e : 5.9V	e : 0V	e : 0V	e : 12.2rec
b : 7.1VFe	b : 7.1VFe	b : 0V	b : 0V	<u>11.5V</u>
0VCr	0VCr	<u>0.7V</u>	<u>0.7V</u>	<u>0V</u>
c : 6.3VFe	c : 6.3VFe	c : 12.4V	c : 10.2V	b : 11.9V
6.0VCr	6.0VCr	<u>0.1V</u>	<u>0.1V</u>	<u>10.9V</u>
				<u>0V</u>
				c : 0V
				<u>11.4V</u>

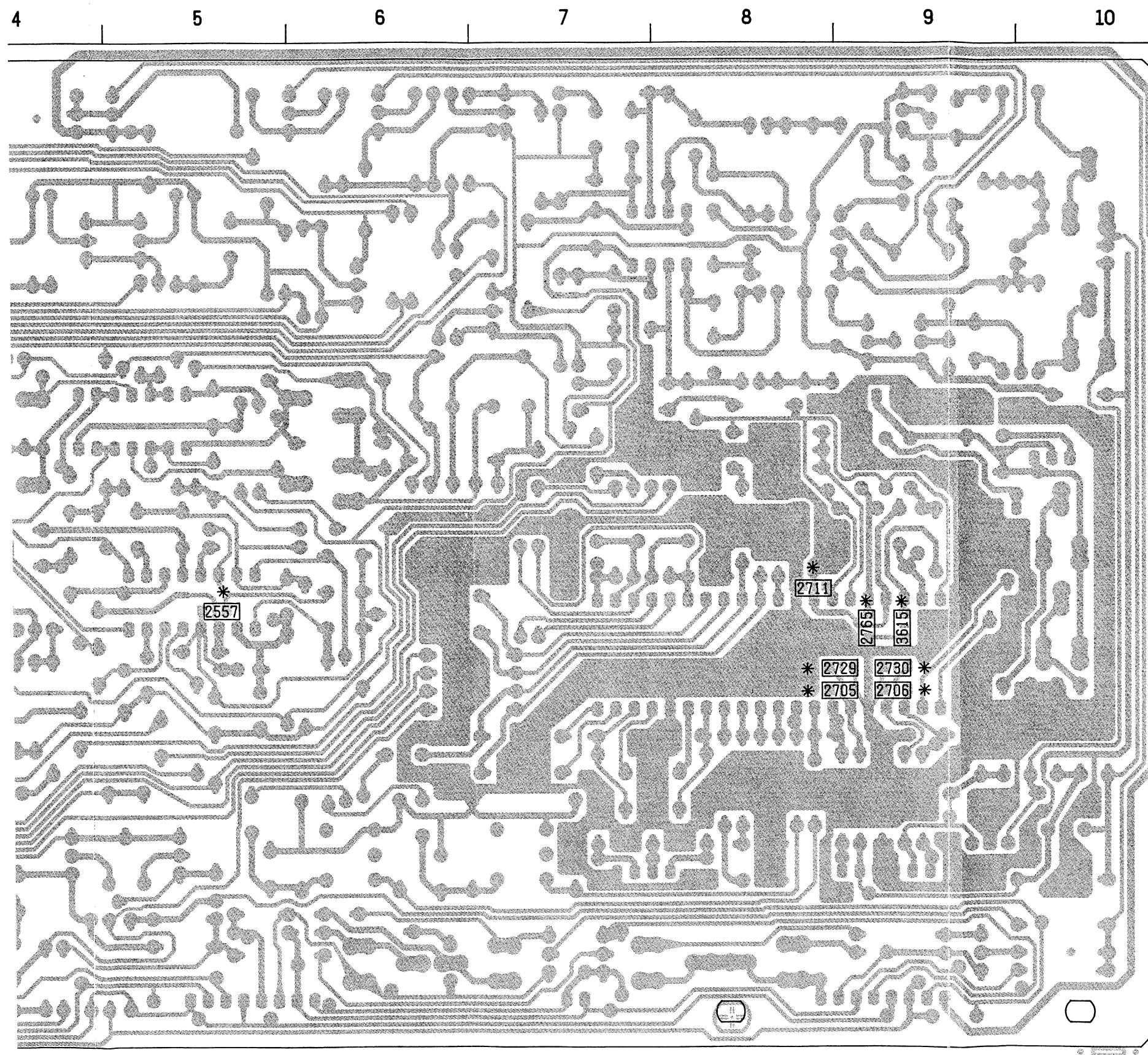
7552	7554	7555	7563
e : 0V	e : 5.9V	e : 5.9V	e : 12.4VFe
b : 0V	b : 6.6V	b : 6.6V	6.0VCr
0.8rec	0.3Vrec	0.3Vrec	b : 11.7VFe
c : 11.6V	c : 5.9V	c : 5.9V	6.0VCr
0.1Vrec			c : 12.4VFe
			0VCr

7701	7551	7556
1 : 5.9V	20 : 11.7V	1 : 5.9V
2 : 5.9V	21 : 5.9V	2 : 5.9V
3 : 5.9V	22 : 5.9V	3 : 5.9V
4 : 5.9V	23 : 5.9V	4 : 5.9V
5 : 5.9V	24 : 5.9V	5 : 0Vdn
6 : 5.9V	25 : 5.9V	12.7Vdf
7 : 9.6V	26 : 5.9V	6 : 5.9V
<u>0.1V</u>	27 : 5.9V	7 : 5.9V
8 : 10.3V	28 : 5.9V	8 : 12.6V
<u>0.1V</u>	29 : 5.9V	
9 : 10.2V	30 : 5.9V	9 : 5.9V
10 : 0V	31 : 5.9V	10 : 0.4V
5.5Vrec	32 : 6.0V	11 : 5.9V
11 : 0.3V	33 : 6.0V	12 : 0V
12 : 5.9V	34 : 5.9V	3.9Vrec
13 : 0V	35 : 5.7V	<u>11.0V</u>
14 : 11.7V	36 : 5.9V	13 : <u>12.0V</u>
15 : 5.1V	37 : 5.8V	14 : 5.9V
16 : 11.7V	38 : 5.9V	15 : 0V
17 : 0V	39 : 6.2V	16 : 5.9V
18 : 11.0V	40 : 6.2V	
19 : 0.7V		

....V	measured in tape on position
...V	measured in tape A play position
...V	measured in tape dubbing on position
....Vrec	measured in tape recording position
....Vdn	measured in dolby on position
....Vdf	measured in dolby off position
....VFe	measured in tape Fe on position
....VCr	measured in tape Cr on position

RECORDER BOARD





2557 D 5
 2705 D 9
 2706 D 9
 2711 C 8
 2729 D 9
 A 2730 D 9
 2765 D 9
 3615 D 9

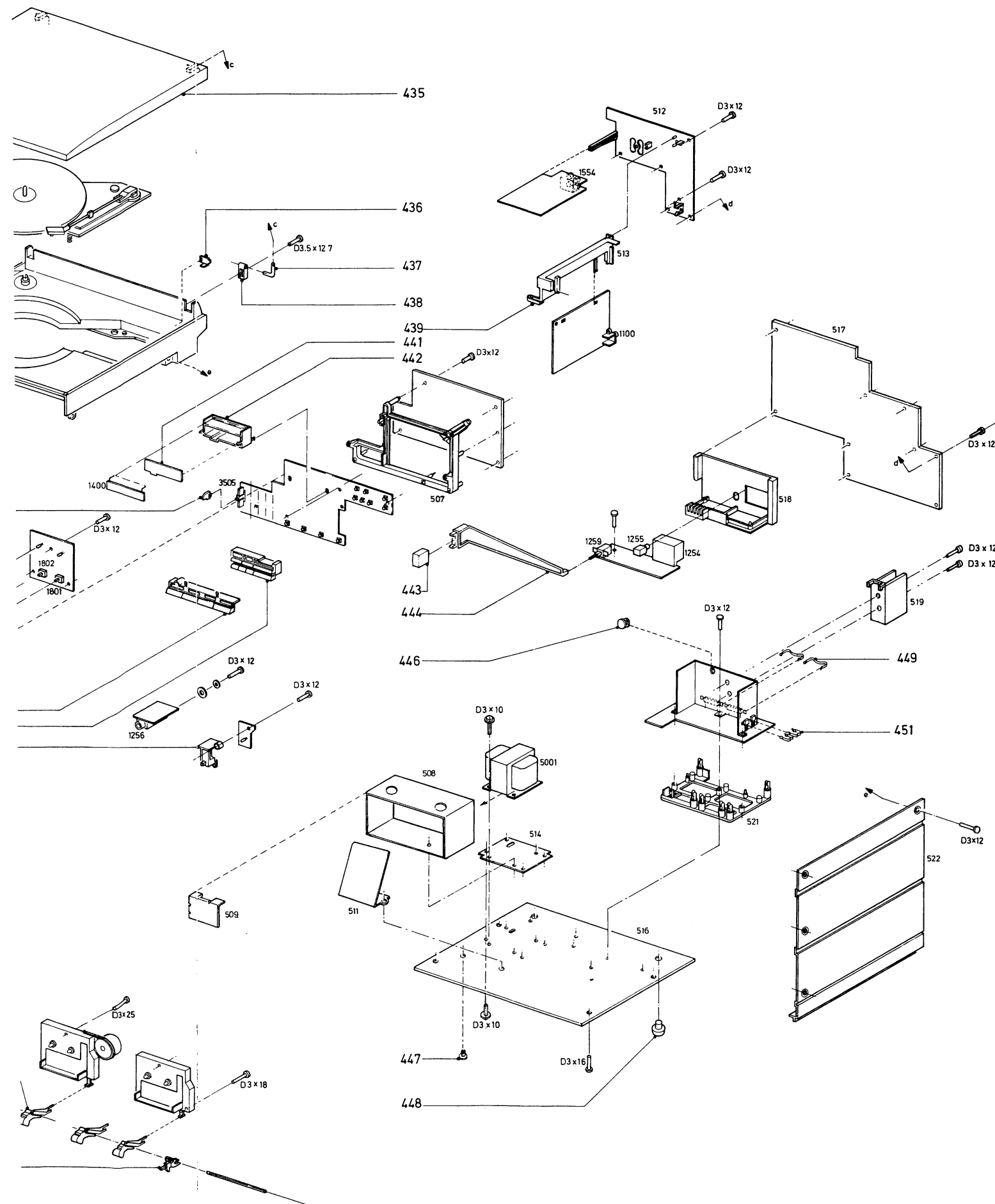
B

C

D

E

F



401	4822	466	92642	417	4822	410	60588	435	4822	462	71645
402	4822	466	92643	418	4822	410	60585	436	4822	460	10589
403	4822	426	40431	419	4822	410	60584	437	4822	417	10631
404	4822	426	60577	420	4822	410	60586	438	4822	417	10631
406	4822	426	51467	421	4822	410	61101	441	4822	466	70666

407	4822	450	61524	422	4822	529	10257	442	4822	256	91477
408	4822	333	40404	424	4822	492	70732	443	4822	413	70269
409	4822	450	61683	427	4822	413	41561	444	4822	535	93055
411	4822	443	63037	428	4822	462	40683	446	4822	401	11336
412	4822	443	63251	429	4822	492	51374	447	4822	532	52321

413	4822	450	61525	431	4822	413	41562	448	4822	462	41535
414	4822	443	63249	432	4822	410	60587	449	4822	255	40128
415	4822	411	61667	433	4822	410	60589	451	5322	255	40397
416	4822	256	91603	434	4822	492	52197				

IFU 4822 736 21036

MISCELLANEOUS			
1100	AERIAL SOCKET	4822	267 31128
1254	SPEAKER SOCKET	4822	267 31107
1255	REMOTE SOCKET	4822	267 31051
1256	SOCKET HEADPHONE	4822	267 30968
1259	POWER SWITCH	4822	276 11567
1302	FUSE T5A	4822	253 10065
1305	FUSE T1.25A	4822	071 51252
1400	LCD DISPLAY	4822	130 90954
1401	SWITCH KEY	4822	276 12465
1402	SWITCH KEY	4822	276 12465
1403	SWITCH KEY	4822	276 12465
1404	SWITCH KEY	4822	276 12465
1405	SWITCH KEY	4822	276 12465
1406	SWITCH KEY	4822	276 12465
1407	SWITCH KEY	4822	276 12465
1408	SWITCH KEY	4822	276 12465
1409	SWITCH KEY	4822	276 12465
1410	SWITCH KEY	4822	276 12465
1411	SWITCH KEY	4822	276 12465
1412	SWITCH KEY	4822	276 12465
1415	LAMP 12V 150mA	4822	134 40965
1554	SOCKET ASSY	4822	266 30293
1801	SWITCH PUSH 2P2T	4822	276 12639
1802	SWITCH PUSH 2P2T	4822	276 12639
5107	CER FILTER	4822	242 72096
5109	C.FILTER 450KHZ	4822	242 71878
5112	X'TAL 7.2MHZ	4822	303 50034
5401	RESONATOR 4.5MHZ	4822	242 73577
5603	FILTER	4822	242 73768
5604	FILTER	4822	242 73768
CAPACITORS			
2103	TRIM 5.2-30pF	4822	125 60102
2104	CHIP 22pF	5322	122 32658
2105	CHIP 100pF	5322	122 32531
2106	CHIP 470pF	4822	122 31727
2107	CHIP 470pF	4822	122 31727

2108	CHIP 470pF	4822	122 31727
2109	TRIM 5.2-30pF	4822	125 60102
2111	TRIM 5.2-30PF	4822	125 60102
2112	CHIP 470pF	4822	122 31727
2113	CHIP 470pF	4822	122 31727
2114	CHIP 820pF	4822	122 31974
2115	CHIP 15pF	5322	122 33869
2116	CHIP 22pF	5322	122 32658
2117	CHIP 12pF	4822	122 32139
2118	CHIP 10pF	5322	122 32448
2120	CHIP 22nF	5322	122 32654
2124	CHIP 470pF	4822	122 31727
2125	CHIP 150pF	5322	122 33538
2126	CHIP 150pF	5322	122 33538
2127	CHIP 22nF	5322	122 32654
2128	CHIP 56pF	5322	122 32661
2129	CHIP 22nF	5322	122 32654
2132	CHIP 1nF	5322	122 34123
2133	CHIP 15pF	4822	122 32504
2134	PP 470pF 400V	5322	121 50999
2135	PP 360pF 400V	4822	121 43253
2136	CHIP 5.6pF	4822	126 10388
2138	CHIP 22pF	4822	122 32482
2140	CHIP 220nF	4822	122 32927
2142	CHIP 47pF	5322	122 32452
2143	CHIP 47pF	5322	122 32452
2147	CHIP 470pF	4822	122 31727
2148	CHIP 470pF	4822	122 31727
2149	CHIP 1.2pF	5322	122 33537
2151	TRIM 3-11pF 100V	4822	125 60101
2152	PP 100pF 630V	4822	121 51288
2153	TRIM 5.2-30pF	4822	125 60102
2156	CHIP 4.7nF	4822	122 33339
2157	CHIP 4.7nF	4822	122 33339
2159	CHIP 22nF	5322	122 32654
2160	CHIP 470pF	4822	122 31727
2162	CHIP 270pF	4822	122 32142
2164	CHIP 560PF	4822	126 10333
2166	CHIP 22nF	5322	122 32654
2168	PP 470pF 400V	5322	121 50999

CAPACITORS				
2169	CHIP 22nF	5322 122	32654	
2171	CHIP 470pF	4822 122	31727	
2174	CHIP 15nF	4822 122	33128	
2175	CHIP 15nF	4822 122	33128	
2178	CHIP 560pF	4822 126	10333	
2179	CHIP 470pF	4822 122	31727	
2180	CHIP 18pF	5322 122	32965	
2181	CHIP 15pF	5322 122	33869	
2183	CHIP 220nF	4822 122	32927	
2184	CHIP 470pF	4822 122	31727	
2185	CHIP 820pF	4822 122	31974	
2186	CHIP 470pF	4822 122	31727	
2187	CHIP 470pF	4822 122	31727	
2188	CHIP 470pF	4822 122	31727	
2189	CHIP 470pF	4822 122	31727	
2191	CHIP 3.9pF	5322 126	10185	
2192	CHIP 220nF	4822 122	32927	
2193	CHIP 820pF	4822 122	31974	
2194	CHIP 82pF	4822 122	33515	
2195	CHIP 220nF	4822 122	32927	
2198	CHIP 15pF	5322 122	33869	
2199	CHIP 150pF	5322 122	33538	
2200	CHIP 1nF	5322 122	31647	
2310	△ ELCAP 25V 47μF	4822 124	40433	
2311	△ ELCAP 25V 100μF	4822 124	41525	
2557	CHIP 47pF	4822 122	31772	
2705	CHIP 680pF	4822 122	32535	
2706	CHIP 680pF	4822 122	32535	
2711	CHIP 470pF	4822 122	31727	
2714	PS 63V 5.6nF	4822 121	50543	
2729	CHIP 150pF	4822 122	31808	
2730	CHIP 150pF	4822 122	31808	
2765	CHIP 4.7nF	4822 122	33339	
RESISTORS				
3101	CHIP 47kΩ	4822 051	20473	
3102	CHIP 33kΩ	4822 051	20333	
3103	CHIP 4.7kΩ	4822 051	20472	
3104	CHIP 1kΩ	4822 051	20102	
3112	CHIP 0Ω	4822 051	20008	
3113	CHIP 68Ω	4822 051	20689	
3114	TRIM 10kΩ	4822 100	20166	
3115	CHIP 47Ω	4822 051	20479	
3117	CHIP 10kΩ	4822 051	20103	
3118	CHIP 270Ω	4822 051	20271	
3121	CHIP 100kΩ	4822 051	20104	
3122	CHIP 2.7kΩ	4822 051	20272	
3124	CHIP 0Ω	4822 051	20008	
3127	CHIP 4.7kΩ	4822 051	20472	
3129	CHIP 100kΩ	4822 051	20104	
3130	CHIP 100kΩ	4822 051	20104	
3133	CHIP 22kΩ	4822 051	20223	
3136	CHIP 15kΩ	4822 051	20153	
3137	CHIP 5.6kΩ	4822 051	20562	
3138	CHIP 4.7kΩ	4822 051	20472	
3140	CHIP 1kΩ	4822 051	20102	
3144	CHIP 18kΩ	4822 051	20183	

3145	TRIM 10kΩ	4822 100	20166	
3146	CHIP 4.7kΩ	4822 051	20472	
3156	CHIP 22kΩ	4822 051	20223	
3157	CHIP 0Ω	4822 051	20008	
3158	CHIP 100kΩ	4822 051	20104	
3160	CHIP 0Ω	4822 051	20008	
3161	CHIP 47kΩ	4822 051	20473	
3162	CHIP 47Ω	4822 051	20479	
3163	CHIP 5.6kΩ	4822 051	20562	
3164	CHIP 0Ω	4822 051	20008	
3170	CHIP 0Ω	4822 051	20008	
3300	△ 1/8W 150Ω	4822 050	21501	
3301	△ 1/8W 150Ω	4822 050	21501	
3317	△ NFR25 47Ω	4822 116	80335	
3318	△ NFR25 47Ω	4822 116	80335	
3321	△ WWRST 5W 10Ω	4822 113	80504	
3322	△ NFR25 3.9Ω	4822 052	10398	
3323	△ NFR25 3.9Ω	4822 052	10398	
3324	△ NFR25 3.9Ω	4822 052	10398	
3325	△ NFR25 3.9Ω	4822 052	10398	
3338	△ 1/8W 10kΩ	4822 051	10103	
3339	△ 1/8W 10kΩ	4822 051	10103	
3340	△ 1/8W 22kΩ	4822 051	10223	
3343	△ NFR25 10Ω	4822 116	80562	
3344	△ NFR25 10Ω	4822 116	80562	
3401	△ NFR25 47Ω	4822 052	10479	
3404	△ NFR25 12Ω	4822 052	10129	
3500	POTM 20K X 2	4822 102	10414	
3505	POTM 50KB X 2	4822 101	21102	
3507	POTM 50KB X 2	4822 101	21102	
3509	POTM 50KB X 2	4822 101	21102	
3511	POTM 50KB X 2	4822 101	21102	
3513	POTM 50KB X 2	4822 101	21102	
3545	POTM 20KB	4822 101	21103	
3568	△ NFR25 22Ω	4822 052	10229	
3593	△ NFR25 22Ω	4822 052	10229	
3606	△ NFR25 22Ω	4822 052	10229	
3615	CHIP 47Ω	4822 051	10479	
3711	△ NFR25 4.7Ω	4822 116	80311	
3715	TRIM 22kΩ	4822 100	11213	
3716	TRIM 22kΩ	4822 100	11213	
3774	TRIMMER 10kΩ	4822 100	20166	
3776	TRIMMER 10kΩ	4822 100	20166	
COILS				
5001	△ TRANSFOR MAINS	4822 146	30963	
5002	FERRITE CORE	4822 526	10539	
5003	FERRITE CORE	4822 526	10539	
5010	BEAD INDUCTOR	4822 157	53447	
5011	BEAD INDUCTOR	4822 157	53447	
5012	BEAD INDUCTOR	4822 157	53447	
5101	FM RF COIL	4822 156	30947	
5102	FM RF COIL	4822 156	30947	
5103	FM RF COIL	4822 156	30947	
5104	OSC COIL	4822 157	53199	
5105	AM OSC COIL	4822 156	10459	
5106	COIL 0.22μH	4822 157	53192	
5108	AM IF COIL	4822 158	60511	
5110	FERROCEPTOR	4822 526	10466	

5111	FM IF COIL	4822 157	60373	
5113	BEAD INDUCTOR	4822 157	53447	
5114	ADJUSTABLE COIL	4822 158	60509	
5115	BEAD INDUCTOR	4822 157	53447	
5251	BEAD INDUCTOR	4822 157	53447	
5252	BEAD INDUCTOR	4822 157	53447	
5402	FE INDUCTOR	4822 157	53447	
5403	FE INDUCTOR	4822 157	53447	
5601	COIL 36mH	4822 156	20811	
5602	COIL 36mH	4822 156	20811	
5605	COIL 36mH	4822 156	20811	
5606	COIL 36mH	4822 156	20811	
5701	OSC COIL 100KHZ	4822 156	20946	
SEMICONDUCTORS				
6001	TLR220 RD	4822 130	82027	
6101	BB804	4822 130	81643	
6102	BB804	4822 130	81643	
6104	OF642	4822 130	32227	
6105	OF642	4822 130	32227	
6107	BZX79-C4V7	4822 130	34174	
6110	BB804	4822 130	81643	
6111	BB804	4822 130	81643	
6300	△ KBU6DL-7002	4822 130	82289	
6305	△ BZX79-C13	4822 130	34195	
6306	1N4148	4822 130	30621	
6307	1N4148	4822 130	30621	
6309	1N4148	4822 130	30621	
6310	1N4148	4822 130	30621	
6311	BZX79-C16	4822 130	34268	
6312	1N4148	4822 130	30621	
6313	1N4148	4822 130	30621	
6314	BZX79-C6V8	4822 130	34278	
6315	BZX79-C2V7	5322 130	34563	
6316	1N4148	4822 130	30621	
6317	1N4148	4822 130	30621	
6401	BZX79C5V6	4822 130	34173	
6411	1N4148	4822 130	30621	
6412	1N4148	4822 130	30621	
6413	1N4148	4822 130	30621	
6415	1N4148	4822 130	30621	
6420	RCR GP1U520X	4822 130	81254	
6436	BZX79C5V6	4822 130	34173	
6437	TLR124 RD	4822 130	31274	
6438	BZX79C12V	4822 130	34197	
6551	1N4148	4822 130	30621	
6552	1N4148	4822 130	30621	
6553	1N4148	4822 130	30621	
6554	1N4148	4822 130	30621	
6555	1N4148	4822 130	30621	
6556	1N4148	4822 130	30621	
6557	1N4148	4822 130	30621	
6558	1N4148	4822 130	30621	
6559	1N4148	4822 130	30621	
6560	1N4148	4822 130	30621	
6561	1N4148	4822 130	30621	
6562	1N4148	4822 130	30621	
6563	1N4148	4822 130	30621	
6564	1N4148	4822 130	30621	

6565	1N4148	4822 130	30621	
6566	1N4148	4822 130	30621	
6567	1N4148	4822 130	30621	
6703	1N4148	4822 130	30621	
6704	1N4148	4822 130	30621	
6705	1N4148	4822 130	30621	
6706	1N4148	4822 130	30621	
6707	1N4148	4822 130	30621	
6708	1N4148	4822 130	30621	
6710	1N4148	4822 130	30621	
6711	1N4148	4822 130	30621	
6712	1N4148	4822 130	30621	
6713	1N4148	4822 130	30621	
6714	1N4148	4822 130	30621	
6731	BZX79-C2V4	4822 130	31253	
6732	BAV21	4822 130	30842	
6801	TLG124A GN	4822 130	32472	
6802	TLG124A GN	4822 130	32472	
7101	2SC1047	4822 130	60163	
7102	2SA838B	4822 130	60093	
7103	CXA1240P	4822 209	72744	
7104	BF199	4822 130	44154	
7105	TBC548C	4822 130	44196	
7106	AN7411	4822 209	71321	
7107	2SC1047	4822 130	60163	
7108	BC338-40	5322 130	44779	
7109	BC338-40	5322 130	44779	
7110	LM7000	4822 209	71331	
7111	BC847C	5322 130	42755	
7112	2SC1047	4822 130	60163	
7113	BC847C	5322 130	42755	
7114	BC847C	5322 130	42755	
7115	BC847C	5322 130	42755	
7301	BD675	5322 130	44786	
7303	△ BC338-40	5322 130	44779	
7304	BC338-40	5322 130	44779	
7305	BC548C	4822 130	44196	
7307	△ AN7161N	4822 209	73356	
7308	△ AN7161N	4822 209	73356	
7309	△ BD433	4822 130	42054	
7313	BC548	4822 130	40938	
7314	BC548	4822 130	40938	
7400	TMP47C221-902-B	4822 209	62996	
7401	BC338-40	5322 130	44779	
7403	NMC9313BN	4822 209	60502	
7411	TBC548	4822 130	40938	
7413	TBC548	4822 130	40938	
7420	TBC558	4822 130	40941	
7421	TBC548	4822 130	40938	
7435	TBC548	4822 130	40938	
7436	TBC548	4822 130	40938	
7437	BC338-40	5322 130	44779	
7438	BC328-40	4822 130	41715	
7439	TBC548	4822 130	40938	
7440	BC338-40	5322 130	44779	
7441	BC328-40	4822 130	41715	
7442	TBC548	4822 130	40938	
7443	TBC558B	4822 130	44197	
7444	TBC548	4822 130	40938	
7445	TBC548	4822 130	40938	

7446	TBC558
7447	BC328-4
7501	NJM4560
7503	TBC548B
7504	TBC548B
7551	NJM4560
7551	CXA1102
7552	BC548B
7552	NJM4560
7553	TBC548C
7554	T

20166	5111	FM IF COIL	4822 157 60373
1 20472	5113	BEAD INDUCTOR	4822 157 53447
1 20223	5114	ADJUSTABLE COIL	4822 158 60509
1 20008	5115	BEAD INDUCTOR	4822 157 53447
1 20104	5251	BEAD INDUCTOR	4822 157 53447
1 20008	5252	BEAD INDUCTOR	4822 157 53447
1 20473	5402	FE INDUCTOR	4822 157 53447
1 20479	5403	FE INDUCTOR	4822 157 53447
1 20562	5601	COIL 36mH	4822 156 20811
1 20008	5602	COIL 36mH	4822 156 20811
1 20008	5605	COIL 36mH	4822 156 20811
2 21501	5606	COIL 36mH	4822 156 20811
2 21501	5701	OSC COIL 100KHZ	4822 156 20946
5 80335	SEMICONDUCTORS		
5 80335			
8 80504			
2 10398	6001	TLR220 RD	4822 130 82027
2 10398	6101	BB804	4822 130 81643
2 10398	6102	BB804	4822 130 81643
2 10398	6104	OF642	4822 130 32227
10103	6105	OF642	4822 130 32227
10103	6107	BZX79-C4V7	4822 130 34174
10223	6110	BB804	4822 130 81643
8 80562	6111	BB804	4822 130 81643
8 80562	6300	△ KBU6DL-7002	4822 130 82289
1 10479	6305	△ BZX79-C13	4822 130 34195
1 10129	6306	1N4148	4822 130 30621
1 10414	6307	1N4148	4822 130 30621
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21102	6311	BZX79-C16	4822 130 34268
21102	6312	1N4148	4822 130 30621
21102	6313	1N4148	4822 130 30621
21103	6314	BZX79-C6V8	4822 130 34278
10229	6315	BZX79-C2V7	5322 130 34563
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10229	6317	1N4148	4822 130 30621
10479	6401	BZX79C5V6	4822 130 34173
8 80311	6411	1N4148	4822 130 30621
11213	6412	1N4148	4822 130 30621
11213	6413	1N4148	4822 130 30621
20166	6415	1N4148	4822 130 30621
20166	6420	RCR GP1U520X	4822 130 81254
	6436	BZX79C5V6	4822 130 34173
	6437	TLR124 RD	4822 130 31274
	6438	BZX79C12V	4822 130 34197
30963	6551	1N4148	4822 130 30621
10539	6552	1N4148	4822 130 30621
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53447	6554	1N4148	4822 130 30621
53447	6555	1N4148	4822 130 30621
53447	6556	1N4148	4822 130 30621
30947	6557	1N4148	4822 130 30621
30947	6558	1N4148	4822 130 30621
30947	6559	1N4148	4822 130 30621
53199	6560	1N4148	4822 130 30621
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53192	6562	1N4148	4822 130 30621
60511	6563	1N4148	4822 130 30621
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6705	1N4148	4822 130 30621
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6714	1N4148	4822 130 30621
6731	BZX79-C2V4	4822 130 31253
6732	BAV21	4822 130 30842
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6802	TLG124A GN	4822 130 32472
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7102	2SA838B	4822 130 60093
7103	CXA1240P	4822 209 72744
7104	BF199	4822 130 44154
7105	TBC548C	4822 130 44196
7106	AN7411	4822 209 71321
7107	2SC1047	4822 130 60163
7108	BC338-40	5322 130 44779
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7110	LM7000	4822 209 71331
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7305	BC548C	4822 130 44196
7307	△ AN7161N	4822 209 73356
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7309	△ BD433	4822 130 42054
7313	BC548	4822 130 40938
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7436	TBC548	4822 130 40938
7437	BC338-40	5322 130 44779
7438	BC328-40	4822 130 41715
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7441	BC328-40	4822 130 41715
7442	TBC548	4822 130 40938
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7444	TBC548	4822 130 40938
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7446	TBC558	4822 130 40941
7447	BC328-40	4822 130 41715
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7552	BC548B	4822 130 40937
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7554	TBC548C	4822 130 44196
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7707	BC558B	4822 130 44197
7722	BC548C	4822 130 44196
7724	BC338-40	5322 130 44779
7801	TBC558C	5322 130 60068

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

ESD



D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unvorsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

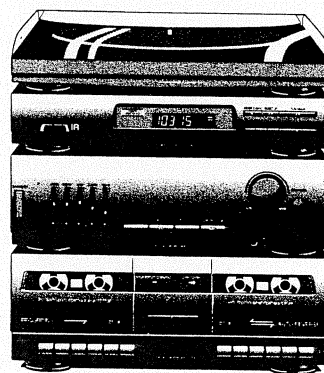
NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

Service
Service
Service



Service Manual

For repair information of the Record player see
Service Manual of Record-player HP7D283MQ-1

For repair information of the cassette mechanism
see Service Manual of Tape Transport RN/RR General
documentation and Tape transport RR-3 or RN-4

For Service information we refer to the manual
AS9510/42

AS9510/22 refers to AS9510/42

Add 4822 445 10273 Loudspeaker
4822 218 10323 Remote control

